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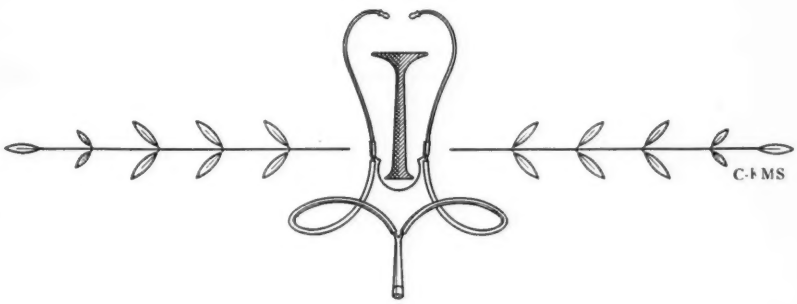

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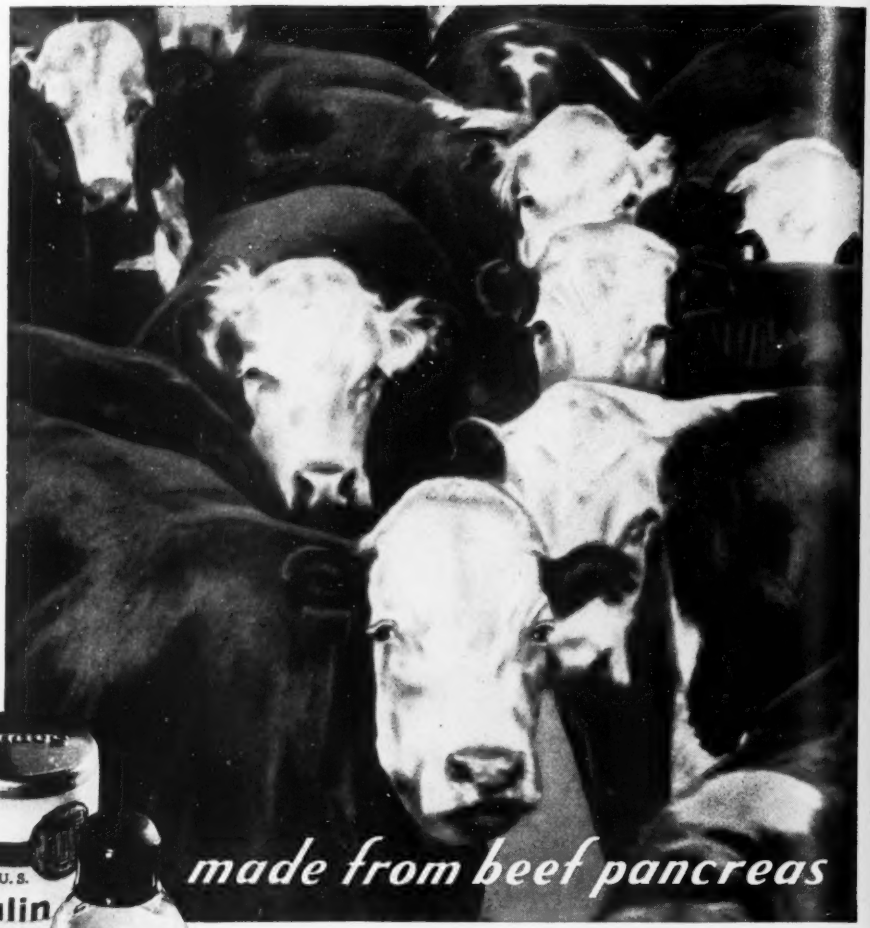


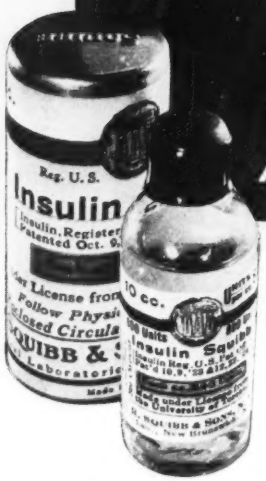


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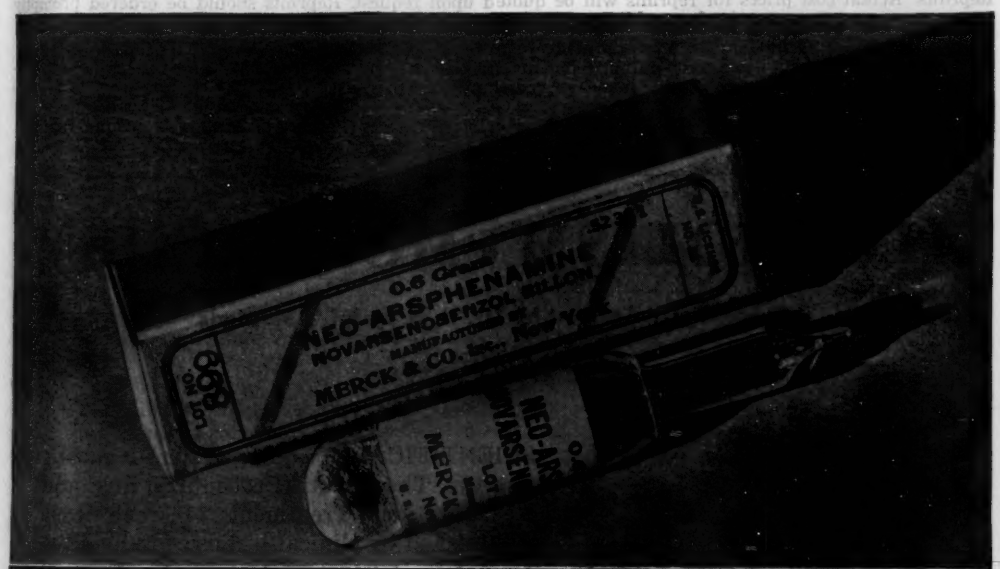


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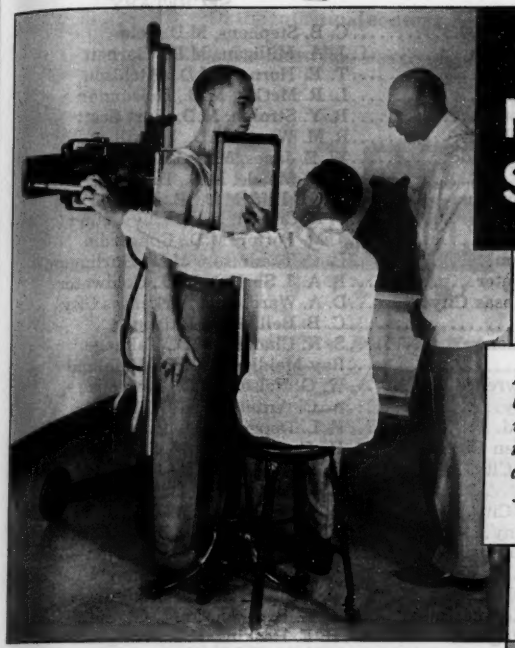

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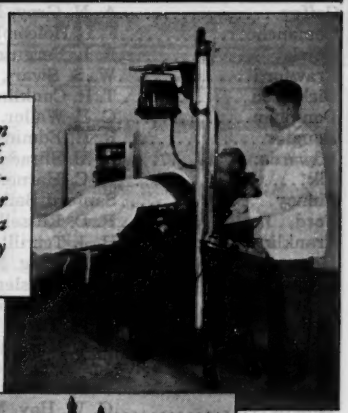

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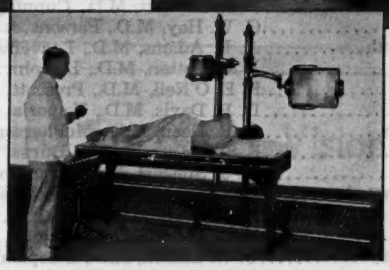

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## SURGERY
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## SURGERY IN DIABETES*

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An interesting development is taking place in surgery. The surgeon of today, armed with anatomy, pathology and physiology, does more than repair anomalies, treat injuries, combat infections and eradicate tumors. He may modify regulatory mechanisms and re-establish a disturbed equilibrium. He tinkers with perverted functions and utilizes all the recent developments that modern medicine may offer. The modern surgeon is more and more confronted with medical problems and the progressive internist is becoming familiar with the results of surgery in his field of interest. The much abused slogan of a cooperation between surgeon and internist should mean more than a formal consultation at the bedside. They must be familiar with each other's problems. The surgeon interested in peripheral vascular disease must be aware of the possibilities of general cardiovascular damage; if he treats a surgical complication of diabetes, he should have a clear idea of the patient's diabetic status. Should he be asked to treat a hemorrhagic purpura by splenectomy, he should take an active interest in ruling out such purpuras which are not suitable for operation.

This border-line type of surgery is well exemplified by the surgery of diabetics. The surgical diabetic of the past was an emaciated, mentally and morally exhausted individual to whom surgery was either denied or on whom it was performed as an emergency with small hope of recovery. The character of operations permissible in diabetics has changed. At the same time diabetic coma, which used to be the largest factor in the mortality of diabetics, has now been superceded by the deaths due to cardiovascular damage and surgical complications. This places a great and new responsibility on the surgeon. He must familiarize himself with the principles of dietetic and insulin management and realize what his medical colleague can do for him. The internist, on the other hand, had to gain insight into the remarkable effects of surgical management in a diabetic whom he was unable to control medically.

It would be most tempting to concentrate on the many problems encountered in diabetic surgery. Instead, I propose to emphasize only governing principles, which have proved to be important in the surgical complications of diabetes and will use as illustrations the management of diabetic gangrene, the diabetic carbuncle and the surgical abdomen as differentiated from diabetic coma. In the second part of my discussion I will summarize my efforts in operating on diabetics to increase their diminished sugar tolerance; in other words, to attack not a surgical complication, but the uncomplicated diabetes. I might say, that years of cooperation with internists of the type of Russell M. Wilder, Charles A. Elliott and George K. Fenn have been of incalculable benefit in developing a teamwork so necessary in the management of the surgical diabetic.

Broadly speaking, three groups of diabetic patients require surgical interference. First, operation is imperative in ruptured or rupturing abdominal viscus or in injuries requiring immediate repair. There is naturally no time for extensive medical management. In most hospitals even a rapid determination of the blood sugar, of $CO_2$ combining power is impracticable. From the massive amount of sugar and the presence of acetone-bodies in the urine, the surgeon can reasonably conclude that in the uncontrolled diabetic requiring imperative surgery he must prevent diabetic coma. These measures consist of adequate supply of fluids, glucose, insulin and heart stimulants. 500 cc.

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of ten per cent glucose can be given intravenously in one hour. Twenty units of insulin are given at the same time, five gr. of caffeine every hour for four doses, and one-sixth gr. of ephedrine subcutaneously if the blood pressure is falling. With such management, the diabetic is ready for operation within an hour. During the operation, five per cent dextrose is given subcutaneously and insulin is administered after the operation according to the urinary findings. A self retaining catheter is left in the bladder and a specimen is tested by the nurse every four hours for sugar and diacetic acid. After the operation, the diabetic is naturally under the joint care of the internist and the surgeon. As a general principle, one hundred grams of carbohydrate should be supplied daily by the subcutaneous or oral route. No sugar is given by rectum. The post-operative diabetic, especially in the presence of infections, has practically no tolerance and is markedly resistant to insulin, Therefore, he requires at least forty-five units of insulin to cover the one hundred grams of dextrose, often more. When oral feedings are begun, it has been my experience that early attempts of high caloric diets may easily produce a set-back. Twenty-five calories per kilogram body weight, containing one gram of protein per kilo, are more than enough. Fat-poor diets are more easily consumed at this stage.

In the second group of diabetics, surgery is urgent but not imperative. A day or two may be spent in trying to free the urine from acetone-bodies or raise the $CO_2$ combining power of the blood. These are patients with carbuncles, infections of the hand, cellulitis, pleural empyema, in other words, pyogenic infections. When acidosis is relieved or improved by fluids, glucose and insulin, the surgical risk has been greatly diminished. A blood culture in diabetics with pyogenic infections is our routine procedure. A great mistake is to wait for complete diabetic control. This is mostly impossible during the presence of an acute infection. In waiting for the disappearance of glycosuria the patient may succumb to a streptococcus septicemia. The disappearance of acetone-bodies, however, may be rapidly accomplished and is highly desirable in this group.

We finally come to the last group of patients, in whom elective surgery can be performed under complete diabetic control. It is in this group that the most gratifying results have been obtained since the advent of insulin. In the preoperative medical management, the diet builds up a satisfactory hepatic reserve of glycogen and consists usually from 120 to 150 grams of available glucose. The urine should be free or practically free of sugar, absolutely free of acetone. The fasting blood sugar should preferably be below 200 milligrams per 100 cc., and the alkaline reserve well above fifty per cent.

The diabetic who is under such rigid preoperative control for ten days to two weeks before an operation, and whose postoperative medical care is just as rigid and meticulous is no greater surgical risk than the non-diabetic of the same age and cardiovascular status. Thyroidectomy, cholecystectomy, removal of a carcinoma should be urged on the same indications as if the patient were nondiabetic. The healing of wounds in controlled diabetics is not delayed. Through the removal of some of these wasting and debilitating lesions often an improvement of the diabetic status may be accomplished.

The anesthetic for operations on diabetics must be carefully selected. Whenever possible, local anesthesia is much to be preferred. The idea that the tissues of the diabetic are prone to slough after infiltration with novocaine can certainly not be supported by our experience with local anesthesia. Amputations on diabetics are performed without shock under a low spinal anesthesia, which need not and should not extend above the groin. Abdominal operations are conveniently done under ethylene combined with local infiltration. For the incision of infected wounds, carbuncles, which require short anesthesia and the use of the cautery, the intravenous injection of evipal is admirably suitable.

The healing of wounds is delayed when diabetes is uncontrolled but not otherwise. In experimental wounds, the uncontrolled pancreatectomized animal shows an absence of fibroblasts and a massive cellular exudate, predominantly leukocytes.

A few types of cases might be briefly discussed for illustration.

DIABETIC GANGRENE: About twenty-five per cent of all diabetic deaths are due to diabetic gangrene. The problems encountered by the physician in a case of diabetic gangrene are, first of all, the determination of the peripheral vascular status; second, the differentiation between a primarily circulatory or primarily infectious gangrene; and third, the decision as to operative

or non-operative treatment and, if amputation is necessary, the determination of the proper level of amputation.

First, peripheral vascular status is systematically investigated by the palpation of pulses, the estimation of the surface temperature, the cutaneous histamine reaction and the oscillometric curves. In my clinic a circulatory record is kept on a mimeographed sheet for all patients.

For practical purposes, the palpation of pulses, the skin temperature as estimated by the hand, and the histamine reaction can be determined for the study of collateral circulation. The investigation of the patient's circulatory efficiency will also help to answer the second question; namely, whether a primarily circulatory or an infectious process is present. If peripheral pulses are present, or if in their absence the foot is warm and of good color, and if there is a definite localized infection such as an infected callus or an osteomyelitis of the toe, the diagnosis of an infectious gangrene is made and only drainage or minor amputation is necessary. Superficial ulcerations may not only heal, but large defects can be covered by skin graft.

The third question, whether in a given case of gangrene operative or conservative treatment is indicated is difficult to answer summarily, as so many factors come into play. A conservative treatment is adopted in a case of toe gangrene, whether demarcated or demarcating, if there is no spreading infection and no evidence of septicemia. Dakin's solution is used with careful protection of the skin, active vascular exercises of Buerger are prescribed, and the passive vascular exercises are administered with the Reid-Hermann apparatus, which stimulates collateral circulation. Continuous moderate heat is supplied by an electric baker, and naturally, a complete diabetic control is attempted. A slow healing may take place with loss of one or two phalanges. A hasty amputation at this stage may precipitate a rapidly spreading gangrene.

Should there be, however, a slow but definite spread of the gangrene, uncontrollable pain or what is most alarming, an evidence of spreading infection or even bacteremia, amputation should be carried out without further delay. The insidious septicemia does not have to manifest itself in high or remitting temperatures. A loss of appetite, weight, a dry tongue, an increased insulin requirement are more sensitive indicators. A blood culture should be taken in every case of diabetic gangrene when spreading infection is suspected.

The third problem, the determination of the proper level of the amputation, can hardly be dealt with adequately in so short a time. There are important mechanical considerations, but the decisive factor is the level of circulatory efficiency, which is best determined by the surface temperatures and the histamine flares. General rules about amputating below or above the knee according to the presence or absence of the popliteal pulse are not satisfactory.

Unfortunately, a great many patients arrive with a spreading infection, and not only the circulatory disturbance but the infection demands an amputation. No time should be lost here in amputating above the knee. The tourniquet is placed not above but below the circular incision to prevent infection of the stump. If the patient is septic, the wound should be left entirely open, loosely packed with gauze saturated in Dakin's solution and a secondary suture or secondary amputation is performed later, should the patient survive. An entirely lethargic attitude about these septic diabetics is not warranted. The blood stream infection should be vigorously attacked with transfusions and with massive doses of polyvalent antistreptococcus or gas gangrene serum. The intravenous use of urotropine is worthy of trial. The prognosis, while bad, is not hopeless. A staphylococcus septicemia, however, has always proved fatal in my experience.

The immediate mortality of patients amputated for diabetic gangrene is due almost always to septicemia, seldom to a vascular accident. Most patients die later of cardiovascular disease. For the prevention of bed sores on the other leg, active and passive vascular exercise may help to avoid bilateral gangrene.

To prevent gangrene in the diabetic, the following measures seem advisable: 1. The diabetes should be under control all the time. 2. The over-weight patients should control their weights. 3. A foot hygiene should be taught to all diabetics. Avoidance of trauma, eradication of ringworm, the treatment of corns and abrasions, the proper selection of shoes, socks and arch supports are some of the important items in prevention of gangrene. 4. All diabetics, even when young or middle-aged, should have their peripheral vascular status examined so that if necessary early conservative measures, active and passive vascular exercises can be early instituted.

DIABETIC CARBUNCLE: Next to gangrene, a carbuncle is the most distinctive surgical complication. The incidence of carbuncles in diabetics is low, but the mortality is over twenty-five per cent. The customary treatment consists of large crucial incisions, with undermining of the edges and Dakinization of the wound.

One must remember, however, that the process of localization is much slower in diabetics and that the degree of septicemia is not indicated by the temperature and by the white count. Both give a notoriously poor response to infection in diabetics. The proper time for incising the carbuncle is as soon as softening of the center is present. To wait for a large fluctuating mass may invite a septicemia but so does a crucial incision, when it is carried into the infiltrated mass. Twice have I encountered septic temperatures and chills with positive blood culture immediately after a radical incision. Operation is preferably delayed until the acidosis is controlled and then the soft center or centers are gently opened with the surgical diathermy current. I am convinced that the electric cautery spreads infection to a much less degree than the scalpel. As explosive gases can not be used, the intravenous injection of evipal, a barbiturate, is most helpful in producing ten to fifteen minutes of anesthesia.

In patients with a septic temperature, uncontrollable diabetes and beginning septicemia, a drastic effort must be made to overcome the generalized infection. One must not wait until a positive blood culture is obtained. The septic type of temperature, the falling white count and the appearance of a chill are ominous signs. Blood transfusion here sometimes does wonders. In 1923, I advocated daily injections of forty per cent methenamine (urotropine) in generalizing infections, and have been interested to see that the Mayo Clinic has recently treated ten diabetics with carbuncles with rest, moist dressings, rigid diabetic control and urotropine. Their results were very satisfactory.

Generally speaking, infection upsets the tolerance of the diabetic. The infections may be quite trivial; a slight cold, a root-abscess produces insulin-resistance and may make massive doses of insulin necessary. This is also true of latent tuberculosis. An eradication of an infected focus, the drainage of an abscess leads to a sudden decrease in insulin-requirement, which must be anticipated by the internist, if he is to avoid postoperative insulin reactions.

THE SURGICAL ABDOMEN OR DIABETIC COMA: The onset of a diabetic coma is characterized by nausea and vomiting, obstipation, abdominal cramps, tenderness or even rigidity, elevation of temperature, rapid pulse, dry tongue and a leukocytosis varying from 20,000 to 40,000. On the other hand, the clinical picture of an acute abdominal lesion in a diabetic is definitely vague. The temperature and white count do not indicate the severity of the appendicitis. Rigidity may be absent. A mark acidosis and glycosuria is naturally present in the diabetic suffering from an acute surgical abdomen. These are the most difficult decisions to make and should require frequent consultations of surgeon and internist. It has been my policy to observe the effect of the treatment for coma. (Fluids, glucose, insulin). If the tenderness and rigidity localize within a few hours, this speaks strongly in favor of a laparotomy, whereas in uncomplicated diabetic acidosis, the andidiabetic treatment rapidly changes the picture. It takes considerable courage to sit at the patient's bedside and withhold operation. I have explored two normal abdominal cavities during diabetic coma and delayed operation in a case of a spreading peritonitis due to a perforated appendix. The latter patient died, the first two recovered. In a doubtful case, then, if after four to six hours of energetic treatment for coma no definite improvement is noted, an exploratory operation under ethylene or local infiltration of the abdominal wall seems reasonable.

There are a great many other interesting problems in the surgery of diabetes; gall bladder disease, pancreatitis, hyperthyroidism have all this one thing in common; their surgical relief improves the sugar tolerance of diabetics and thus should be undertaken in spite of, but also because of, diabetes. This thought leads us to the second group of operations, which have been devised to treat not the surgical complications but to improve diabetes itself by surgical measures.

ATTEMPTS TO INCREASE THE SUGAR TOLERANCE OF DIABETICS: Any surgical attempt to improve sugar tolerance must necessarily answer the criticism that since the advent of insulin the treatment of diabetes is solved. Statistics from the large diabetic clinics indicate a decrease or practical absence of mortality in juvenile diabetics, who can now normally progress to adult life. Coma, according to Joslin, should disappear as a cause of mortality in diabetics. Unfortunately, however, the favorable

statistics of Joslin, Wilder and Allen, Priscilla White, can not be reproduced throughout the country. The study of four recent statistics analyzing the diabetic deaths in the states of Oregon, Washington, Minnesota and Ontario show that insulin is still not used in many cases. In Ontario, where insulin is provided free of charge to charity patients, none had been used in forty-four per cent of 192 cases of fatal diabetes and in only twelve per cent had it been used with any regularity. In averaging these four individual statistics, one can state that roughly one-third of all patients who died of diabetes had never used any insulin and that less than half of them ever tested their urine. This situation necessarily calls for a vigorous educational campaign both among the lay public and among doctors. Visiting diabetic nurses such as exist in the state of Massachusetts would play an important role in the education and treatment of diabetics and so would diabetic camps for children.

It is obvious that the diabetic child, whose uncomplicated diabetes has not been obscured by secondary changes in the cardiovascular system and in parenchymatous organs, is in the center of interest. Juvenile diabetes, contrasted with the mild diabetes of the obese, hypertensive, arteriosclerotic individual, is usually severe, difficult to control. The tolerance varies and is easily influenced by injuries, infections, or mental strain. Their insulin requirement is high, expensive and it is only quite recently that money could be obtained for some of these diabetics from the Emergency Relief Commission. In doing any type of clinical research on diabetes, my medical colleagues and I postulated that the severe type of juvenile diabetic with unstable tolerance, one that has been diabetic for at least two years and adequately controlled for several months, and one that shows no detectable vascular damage by films of peripheral vessels and ophthalmoscopy, is the type in which an operative procedure to improve carbohydrate metabolism could be undertaken with justification. We have also learned that children with any, even though healed, pulmonary tuberculosis should be carefully excluded as they later may become activated and interfere with the interpretation of results.

Obviously, these surgical attempts to increase the utilization of carbohydrates had to be based on the current theories of diabetes. Thus, if one regards the insulin-deficiency as the primary cause of diabetes, an increase in the insulin-production of the diabetic would be desirable. It could be shown by numerous investigators that ligation of a part of the pancreas would gradually destroy the acini and increase the size and number of islets. I have repeated and confirmed these experiments and also showed with Hannett and Henderson that the sugar tolerance of normal dogs could be increased by ligating the tail of the pancreas. We later showed with Cuthbert that when the ligated tail was removed the tolerance did not drop, but on the contrary rose. This could only be explained by the stimulating effect of the removal of the tail on the remnant. We concluded that the rise in tolerance following a massive ligature around the body of the pancreas produces a hypertrophy and a hyperplasia of the islets in the ligated portion; later, however, a progressive sclerosis replaces the destroyed acinar tissue, invades the islands and a compensatory regeneration or even a hyperregeneration of the unligated portion occurs.

The experience with two diabetic children, in whom the ligation of the tail of the pancreas was performed, indicated an early unmistakeable improvement in sugar tolerance; one child operated on five years ago is well and active, but requires seventy-two units of insulin on a diet of 2320 calories. He can not be called improved by the operation. The other child, who had previously spent a year in a tuberculosis sanitarium, but was completely afebrile, gaining weight, did remarkably well after the operation. Later he drifted away from us, became a Christian Scientist, dropped his diet. I understand that he now arrives frequently at smaller hospitals in coma, is taken in and carefully nursed for several weeks and then discharged to arrive in another hospital. He now has a reactivation of his pulmonary tuberculosis and as he still requires insulin, must be classified as a failure of the operation.

We have, then, two diabetic children, both of whom showed a gain in tolerance at first, but late results are entirely negative. What is the cause of this failure? One might say that the second boy was poorly selected because he had had an old tuberculous infection, because he was uncooperative and perhaps unable to get his proper food and insulin. But that certainly does not apply to the first child, who was under favorable social conditions, who is developing normally, but whose gain in tolerance did not last.

There is one much more important point to

be considered. Was the diabetes of these children really due to an insulin-deficiency? Shields Warren has shown that the absence of abnormal changes in the pancreas is striking in juvenile diabetics. He felt that there were no irreversible changes present. In both of our cases the pancreas was normal to sight and palpation, but no biopsy was taken. In the case of a man suffering from a carcinoma of the body and tail of the pancreas at autopsy no normal tissue could be found. If there was any normal islet tissue, it evaded careful search. And yet the sugar tolerance of this man was perfectly normal. These observations and others point to the fact that certain types of diabetes may not be pancreatic and that a differentiation of such a type from a true "pancreatic" type of diabetes might be important.

Nobody can deny that diabetes or at least abnormal sugar tolerance may result following acute pancreatic necrosis. Mackenzie and I have followed such cases and found that the diminished sugar tolerance may be present as high as in forty per cent after acute pancreatic necrosis but because of the marked regenerative power of the pancreas the sugar tolerance may return to normal. This type of diabetes is truly pancreatic or insular. But there are indications that an extra-pancreatic diabetes exists in which the disturbance in carbohydrate metabolism is not due to insulin-deficiency, but to the presence of factors that inhibit insulinic secretion, prevent its activation or oppose its action. These patients do not react normally to injected insulin. They are insulin-resistant.

There are a great number of factors that are capable of producing an insulin-resistance, and as I have summarized them elsewhere, I can not go into a detailed enumeration here. Suffice it to say, that Fenn, Trump and I have worked out a single clinical test, whereby the insulin-sensitivity of the diabetic patient can be determined. If the patient is insulin-sensitive, it really means that he responds well to insulin but is deficient in its secretion. If he is insulin-resistant it means that, while he may secrete enough insulin, the counter-regulatory forces oppose or inhibit its action.

From a surgical standpoint, the latter type of diabetic, namely the insulin-resistant, is of great interest. It has been known for some time that animals can be made insulin-sensitive by different methods, such as hypophysectomy, adrenalectomy, and section of the splanchnic nerves. Cuthbert and I repeated some of these experiments and found that all these operations have one thing in common; namely, that they increase glycogen storage and glycogen-fixation in the liver. Not only does the glycogen content of the liver rise, but it is also more difficult to mobilize it with epinephrine. Partial adrenalectomy or bilateral adrenal denervation has been done by some Italian surgeons and by Crile for diabetes. Their results are difficult to interpret. Hypophysectomy in the pancreatectomized animal was capable of preventing experimental diabetes as first shown by Houssay. And so is the cauterization of a certain limited area in the hypothalmus, (Davis and Cleveland). Cuthbert and I, however, demonstrated that the excision of the coelic ganglion could accomplish the same result. We also showed that a section of the splanchnic nerves resulted in an identical rise of tolerance as coelia ganglionectomy or adrenal denervation. This finding put such experimental methods in the realm of clinical possibilities. Splanchnic nerve section deprives the liver, pancreas, adrenals and kidneys from sympathetic innervation and is preferable to adrenal denervation as it denervates larger areas and because regeneration of nerve fibers can be more effectively prevented. For lack of time, I will just present one case history of an adolescent diabetic, whose insulin requirement could be depressed from seventy-five units to ten units by such an operation. The case was improperly selected because of the presence of slight pulmonary findings, which later became a serious problem.

Our present methods of selecting these patients depend on the test for insulin-sensitivity and the response of an alimentary hyperglycemia curve to ergot. I felt that the administration or ergot, being a sympathetic depressant and an antagonist of epinephrine, might conveniently imitate the effect of a splanchnic section. Thus, a patient, whose blood sugar curve was not depressed by ergot, could not derive any benefit from splanchnic nerve section.

So far, three patients have been subjected to this operation and the study of results is most illuminating. Thus, it can be shown, that an insulin-resistance can really be changed to a state of insulin-sensitivity and that this result seems to be one that has persisted over one year. Second, it could be shown that the alimentary hyperglycemia curve of these patients will behave similarly after splanchnic section than it did before the operation, when ergotamine was administered. This finding emphasizes the

value of the drug in the selection of cases. Third, it became clear that should there be any form of latent infection, and I am particularly thinking of tuberculosis, this will maintain a certain amount of insulin-resistance, which the operation can not overcome.

The ultimate goal of such an operation is first to take the patient off insulin, and second to stabilize his tolerance and make it comparatively independent from external factors as emotions of strain, anxiety. So far, we have not been able to take any of these patients entirely off insulin. Our best result was a reduction from seventy-five to ten units. In a second case a reduction of forty to twenty units was obtained. This result occurred after operating on one side, whereas no further reduction occurred after the section of the contralateral side. It is very probable that the operation on the second side was incomplete. This was my first case, and since that I have learned to use adequate measures to prevent regeneration. In the third case, both the insulin and ergot tests showed that no result has been obtained. He was insulin-sensitive to start with and did not respond to ergotamine.

Considering the magnitude of these operations, such results seem rather discouraging. And yet we must remember that we have selected very severe, extreme cases, with bad prognosis. A reduction of sixty-five units of insulin a day following splanchnic nerve section, is a significant result and Dr. Fenn and I have repeatedly speculated on the effect one could obtain on a milder or even latent type of diabetic. The tests on such a diabetic girl, six years old, are shown here. This child had her first urine analysis before a tonsillectomy, when a glycosuria was discovered. On a fairly liberal diet without insulin she is not only sugar free, but has a fasting blood sugar between eighty and ninety milligrams per 100 cc. And yet the tests show that, while her insulin response seems normal, she has a diabetic type of alimentary hyperglycemia and that this curve can be restored to normal by ergot. I think there may come a time when we will feel more positive that such children invariably become severe juvenile diabetics and that an operation at this stage may really prevent the outbreak of a severe diabetes.

The outlook for further progress, I believe, lies in the careful study and follow-up of these early, mild or even latent forms of diabetes. We are watching a small group of these patients now. I think that in possession of simple clinical tests that I have described we will be able to analyze the diabetic status of these juvenile diabetics. It has been often stated that the uncomplicated juvenile type of diabetes offers the best chances for the analysis of pure diabetes. I think one may go a step further. The latent type of juvenile diabetes does not yet manifest secondary disturbances of sugar metabolism. It seems to be, at least in the cases studied, dependent on an increased sympathico-adrenal irritability, which in turn mobilizes abnormal amounts of glycogen. Whether these impulses originate in the hypophysis or in hypothalamic centers is not to the point now, but they can be effectively interrupted by severing those two important cables, the splanchnic nerves, which connect the central nervous system with the abdominal brain, namely, the coeliac ganglia.

I think these early gropings into the fundamental causes of juvenile diabetes and its surgical relief will illuminate to you a tendency in surgical research. This research is beset with difficulties, pitfalls and disillusionment. But out of the scattered fragments some Siegfried will forge the all-powerful sword that conquers the dragon of diabetes.

## BROMIDE INTOXICATION

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The bromides are perhaps the most commonly used drugs in all branches of medicine, yet many practitioners are unaware of their toxicity and the potentialities for harm when their use is not carefully controlled by either clinical or laboratory methods. As a clinical entity, bromide intoxication has been recognized for some time by the psychiatrists. However, it is not infrequently observed in a general medical service and may give rise to some very puzzling diagnostic problems: that we have had five such cases during the past six months is proof enough of this statement.

Bromides were discovered by Balard in 1826 and introduced into therapy by Graf in 1840. Huette is credited with the first report of a case of bromide intoxication. According to An-

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drews[1] one of the earliest occurred in the family of an English apothecary in the late eighties, the servant having filled the salt-cellars from the barrel containing sodium bromide, which was next to the barrel of sodium chloride. The entire family developed a toxic psychosis which cleared up after several weeks. Landenheimer[2] in 1901 was the first to point out the relation of the chloride intake and bromide retention, noting that an increase in the chloride intake diminishes the bromide depot. He also pointed out that we get early bromism in anemia and cachexia in which the body fluids are poor in chlorides, and in kidney and heart disturbances with the incidental fluid retention. It was not until 1927, however, that the diagnosis of bromide intoxication was placed on a scientific basis by the publication of Wuth's[3] paper in which he describes the method of quantitative determination of the blood bromides. He also reported twenty cases of bromide intoxication admitted during a six months' period at the Henry Phipps Psychiatric Clinic of the Johns Hopkins Hospital. In 1930 Diethelm[4] reported nine cases of his own from the same clinic. He stated that forty per cent of all admissions to the Phipps Psychiatric Clinic during the course of a year had taken bromide, but only two per cent showed toxic symptoms. In 1930, Wagner and Bunburg[5] studied one thousand consecutive cases admitted to the Colorado Psychopathic Hospital in regard to their serum bromide content. Of this number forty-four showed mental symptoms which were due to or increased by bromides, seventeen sought admission solely on account of intoxication due to bromide, two of them dying purely from bromism. Doane and Weiner[6] in 1931 reported four cases of bromide intoxication admitted on a general medical service. Sippi and Bostock[7] reported nine cases in 1932, emphasizing the fact that only one was associated with a bromide eruption. Wainwright[8] in 1932 contributed five additional cases to the literature, stressing the importance of the intelligent use of bromides.

Solomon[9] described the pharmacologic action of the bromides as follows: "They depress the entire central nervous system, with the exception of the medulla, depressing the psychic functions, the motor cortex and the spinal cord—lowering its reflex excitability. The muscle tone is lowered throughout the entire body. Ordinary doses have no effect on the circulation, but larger doses depress the heart and vasoconstrictor center. They lessen arterial tension and lower body temperature, depress sexual appetite and power, and cause pallor, acne on the face and extremities, coated tongue, disordered digestion, emaciation, somnolence, sluggish reflexes and defective coordination. They may be responsible for impairment of the mental faculties, with hallucinations and delusions, or cause melancholia or maniacal excitement."

Bromides are not excreted by the kidney as rapidly as chlorides and tend to remain in the blood replacing partially the chloride ion, however, Andrews[1] makes the statement that bromide intoxication will not occur if sodium chloride is ingested in sufficient quantities to take care of the body metabolism six to ten grains per day.

The clinical picture of bromism is very diverse; anorexia, constipation and loss of weight may be the first symptoms. Nausea and vomiting are also common. Bromide eruption and conjunctivitis are comparatively infrequent. The mental manifestations of bromide intoxication are characterized by psychic deterioration, in which the patient is dull, stupid and apathetic. The attention and retention, as well as the judgment and the association of ideas become greatly impaired. A typical delirium often develops. Speech may be disturbed. Active hallucinations, delusions and dreamlike states are prominent and are mostly persecutory and terrifying in nature. The mood is variable, usually depressed, but may be euphoric. If the attention is gained the response is often good.

The temperature may vary from normal to 103 F., the pulse usually being quite rapid. The neurological manifestations may be ataxia, tendon reflex changes—exaggerated or diminished—unequal, irregular ankle clonus, pseudo-ankle clonus, bilateral Babinski, tremors of the hands, face and other parts. The pupils are frequently dilated, but may be contracted and are often irregular and unequal. Andrews[1] found absent or diminished gag reflex in all of his cases. The pupils react sluggishly or not at all to light. Speech is thick and often indistinct. Sensory anesthesia, paresthesias and hyperasthesias may occur. The general excitability of the nervous system is greatly lowered. There may be circulatory disturbances evidenced by weakness and lowering of tension. Genito-urinary disturbances as retention or diminution of urinary output, menstrual irregularities, and lowering of sexual function are common.

REPORT OF CASES

Case 1.—Mrs. A. B., white, age fifty-seven, was first admitted to Bell Memorial Hospital January 10, 1934, because of cardiac decompensation secondary to arteriosclerotic heart disease. She had a very stormy course during her ten weeks' stay in the hospital, but at the time of dismissal her heart was compensated and she was able to walk about without dyspnea. During her illness numerous sedatives were tried without success until triple bromides were prescribed. This drug being very effective in relieving her "nervous tension," she was dismissed March 23, 1934, with directions to take two or three fifteen grain tablets daily as needed.

Present Illness: She progressed very well at home until April 25, 1934, at which time she became nauseated and vomited repeatedly. She had also complained of very severe constipation. At the same time her husband noticed an increasing mental dullness, and on the day prior to her readmission April 28, 1934, she was very confused and was disoriented as to time and place. She had also had many visual hallucinations; one that was especially real to her was that the walls of her room were on fire.

Medication: After reviewing her medication we found that she had received 149 fifteen-grain triple bromide tablets during a period of sixty-seven days; the total dosage in grains being 2235, a daily average of 33.35 grains.

Physical Examination: Obese white female in no apparent physical discomfort; there was no evidence of "congestive heart failure." The pupils were equal and regular, but reacted sluggishly to light. The lungs were negative. The cardiac dullness extended one cm. to the left of the midclavicular line. Heart rate 100, fibrillation, tones distinct and no murmurs. The neurological findings included absence of knee kicks, neutral plantar response, muscular incoordination, ataxia and the presence of the Romberg sign.

Mental Examination: Patient quite confused, failing to recognize her former attendants. She was often very delirious, crying out because of her terrifying hallucinations or delusions.

Laboratory Examinations: The Walter-Hauptman test on May 2, four days after admission was 269.3 mgm. of sodium bromide per 100 cc. of blood serum. The daily changes in this determination can be seen in curve 1, Fig. 1. The bromide determination of the spinal fluid on the same date was 117.8 mgm. bromide per 100 cc. spinal fluid. The spinal fluid and blood Wassermann tests were negative. Lange Colloidal Gold 0000100000. The urine was positive for bromide, otherwise negative. Blood chemistry normal, chlorides (total halogen) 480 mgm. per 100 cc. of whole blood.

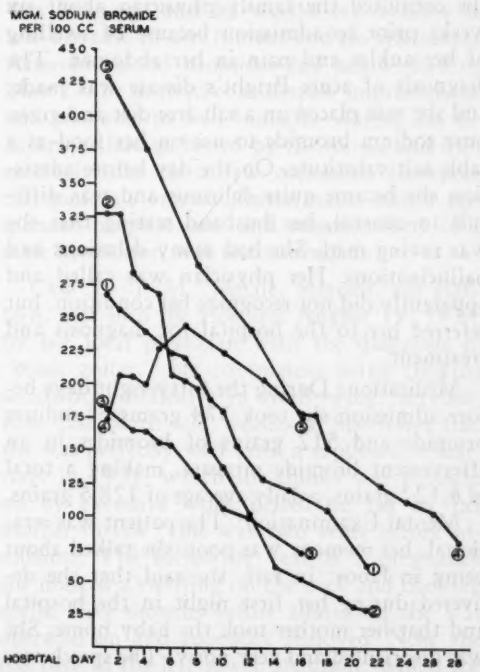


Fig. 1—Graph showing the sodium bromide content of the blood serum in the five cases as numbered. Treatment was started immediately upon diagnosis of each case except number 4, where it was not started until five determinations had been made.

Course in Hospital: During the first fourteen days in the hospital she was quite delirious at times, both visual and auditory hallucinations were prominent features and were very real to her. Her temperature varied from normal to 104 degrees F. on one occasion. One night she became so frightened that she got out of bed while her nurse was at lunch and hid in the closet, saying that several men were after her with guns. Persecutory delusions were frequently present. Nausea and vomiting occurred frequently and obstinate constipation was always present. The bromides were stopped immediately after admission because we recognized that they were probably the cause of her delirium; after this suspicion was confirmed by the blood bromide determination, sodium chloride in dram doses was given three times

daily by mouth. Her toxic symptoms entirely disappeared after the serum bromide fell below 150 mgm. per 100 cc. and did not return.

Case 2.—Mrs. L. G., white, age thirty-eight, was admitted on the medical service of Bell Memorial Hospital May 18, 1934, in a delirium.

Present Illness: According to her husband she consulted the family physician about six weeks prior to admission because of swelling of her ankles and pain in her abdomen. The diagnosis of acute Bright's disease was made, and she was placed on a salt free diet and given pure sodium bromide to use on her food as a table salt substitute. On the day before admission she became quite delirious and was difficult to control, her husband stating that she was raving mad. She had many delusions and hallucinations. Her physician was called and apparently did not recognize her condition, but referred her to the hospital for diagnosis and treatment.

Medication: During the forty-eight days before admission she took 374 grams of sodium bromide and 512 grains of bromides in an effervescent bromide mixture, making a total of 6,122 grains, a daily average of 128.5 grains.

Mental Examination: The patient was irrational, her memory was poor, she talked about being in labor; in fact, she said that she delivered during her first night in the hospital and that her mother took the baby home. She was disoriented and very noisy. The speech was slurred, and incoherent at times.

Physical Examination: The patient was moderately well nourished and rather pale, and extremely restless. The eyes rolled in all directions, pupils were eccentric and reacted sluggishly to light and acommodation. The skin had a dusky tint, but there were no eruptions. The patient was very dehydrated, the tongue being heavily coated. Thyroid not enlarged, no adenopathy. Heart and lungs negative, B.P. 124/94. Abdomen negative. The knee jerks were absent, no plantar response. The patient was unable to stand alone, but had marked ataxia when attempting to walk with help.

Laboratory Examinations: The Walter-Hauptman test on May 19, 1934, showed 321 milligrams of sodium bromide per 100 cc. of serum. The concentration in the spinal fluid was 121.5 mgm. of bromide per 100 cc. The Blood and spinal fluid Wasermann's were negative. The urine examination showed a faint trace of albumin, otherwise negative. The blood count was: erythrocytes 3,780,000, hemoglobin sixty-five per cent, leukocytes 5,400, polymorphonuclears eighty-three per cent. Blood chemistry: N.P.N. 31.6, creatinine 1.5, sugar, 79, chlorides (total halogen) 490. The subsequent bromide determinations can be read by consulting curve number 2, Fig. 1.

Course in Hospital: Bromides were stopped immediately—during the first three days her symptoms were greatly aggravated, she was so loud and disturbing to other patients that she had to be isolated, and so irrational that she had to be restrained in bed. At times she did not recognize her relatives or attendants. She became frightened at times because of her many hallucinations. During the first ten days her temperature was elevated to 100 degrees F. daily and on one occasion it was 102 degrees F. Sodium chloride, three drams daily, was prescribed, and she was given 1500 cc. of normal saline by hypodermoclysis every other day during the first ten days. It seemed that she became more delirious on the days she received the saline, but was markedly improved the following days. The greatest drops in the blood bromides concentration followed hypodermoclysis. She became more anemic, the hemoglobin falling to fifty per cent, for which she was given one blood transfusion. After the tenth day her delusions and hallucinations had disappeared, and she was perfectly normal mentally. She was dismissed June 8, 1934, and to date there has been no recurrence of symptoms.

Case 3.—Mrs. W. L., white, age forty-six, had been under observation for psychoneurosis-hysteria for a period of two months. She complained of vague aches and pains all over her body, backache and headache being the most persistent. She had been seen in consultation by almost every physician on the staff, none diagnosing organic disease. She was given a four ounce mixture containing six drams of sodium bromide, to take a teaspoonful three times daily. About one month later she developed marked psychotic symptoms, characterized chiefly by auditory hallucinations and delusions of persecution. She accused her physicians of talking about her, of telling that she had been immoral and that she was "crazy." She also developed a bromide eruption.

Medication: The tonic prescribed contains 11.3 grains of sodium bromide to the dram, thus she received ninety drams or 1017 grains of sodium bromide, and in addition she received gr. xl as an h.s. order several times making a

total dosage of 1057 grains, the daily average being 35.2 grains.

Laboratory Examinations: The Walter-Hauptman test showed 166.9 milligrams of sodium bromide per 100 cc. of serum on May 23, 1934. The Wassermann test on the blood and spinal fluid was negative. The urine was negative except for positive bromide test. The blood count and chemistry was normal. Subsequent bromide determinations can be ascertained by referring to curve 3, Fig. 1.

Course in Hospital: Bromides were discontinued and sodium chloride was given by mouth, one fifteen-grain tablet four times daily. There was a gradual improvement in her mental condition, and at the time of her dismissal June 7, 1934, her symptoms of bromism had disappeared, but she was still very psychoneurotic, believing that she has some terrible ailment that the "doctors" were unable to diagnose.

Case 4.—J. J. McG., male, age sixty-seven, admitted to the hospital February 21, 1934, because of a left hemiplegia following a cerebral hemorrhage or thrombosis. He had developed a mild arteriosclerotic or senile psychosis before admission, and after he was given barbiturates his condition was greatly aggravated. After being without sedatives for a time he was given sodium bromide and during a period of seventeen days he received 1100 grains, a daily average of 64.7 grains.

Physical Examination: An undernourished white male who was not acutely ill. There was bilateral arcus senilis; generalized arteriosclerosis; pupils regular and equal, reacting normally to light and accommodation; teeth in poor condition; heart, lungs and abdomen negative. Except for disuse muscular atrophy the extremities were negative, the patient being completely bedridden. Neurological examination revealed marked increase in all the tendon reflexes on the left, and muscular rigidity on the same side, the extremities assuming the flexed attitude characteristic of spastic paralysis. Babinski present on the left.

Laboratory Findings: The Walter Hauptman test on May 7, 1934, was 173.2 mgm. per 100 cc. of serum. The highest reading was 242.4 on May 16 a few days after the bromides were discontinued. The spinal fluid bromide concentration at that time was 121.7 mgm. per 100 cc. The subsequent determinations can be read on curve number 4, Fig. 1. Blood and spinal Wassermann's negative.

Course in Hospital: For a time after the administration of bromides this patient seemed to improve, that is, he seemed less irritable, but later his symptoms were made much worse and the drug was discontinued. He became extremely unruly, disturbing the entire floor. He had many delusions and hallucinations. One that recurred quite often was that the world was burning, and he would cry because he was not able to save himself and his attendants. After his blood bromides fell below 154 on May 27, he showed considerable improvement, and was able to feed himself—during his delirium he had to be fed by the nurses and by a stomach tube on a few occasions. However, this patient's organic illness makes him a permanent hospital case and committment to a state institution was recommended.

Case 5.—I. M., female, married, age eighteen, sent into the Hospital August 19, 1934, by her local physician with the diagnosis of "toxic goiter," her complaints being choking sensations, difficulty in swallowing, nervousness, fast heart, and weakness. She states that she was perfectly well until a supposed miscarriage in 1931, which she thinks was brought on by excessive work placed on her by her mother-in-law; this was two years before admission. The following year at a pregnancy she noticed a swelling on the neck and choking spells. Five months before admission she was operated on and appendix removed. Now she has pain in the left lower quadrant, which she states her local doctor diagnosed as due to hyperthyroidism, but which she thinks due to her ovary, "which he should have removed when he took out my appendix." Since this operation she has been more nervous than usual, and has taken very large doses of nerve medicine —"more than the doctor prescribed." He states that he ordered seventy-five grains daily of sodium bromide, which she took for seven weeks, a total of 3150 grains, but according to her story she probably took a much greater amount. Past history revealed that the patient has been somewhat of a nervous disposition most of her life, and shortly after marriage she began to have frequent nervous spells. There is a very definite social complex which has given her considerable mental anguish and worry. This social history discloses ideas of persecution, abuse and neglect. She was now decidedly paranoiac and rather difficult to handle in the hospital.

Laboratory Examinations: The Walter-Hauptman test showed 428.5 mgms. of sodium bromide per 100 cc. of serum August 20, 1934; chlorides (total halogen) 650 mgm. per 100 cc. whole blood; urinalysis negative, except for positive bromide test. Blood count and chemistry were normal. Subsequent bromide determinations were made, as shown in curve 5, Fig. 1. Basal metabolic rate showed plus sixteen, and plus eighteen.

Course in Hospital: Bromides were immediately discontinued, and she was given sixty grains of sodium chloride daily by mouth. Rapid improvement in her mental condition was observed, and she was dismissed two weeks later at which time her blood bromides were 172 mg. Her pulse had returned to normal, and she no longer had the choking sensation. She was directed to continue the taking of sodium chloride for another four weeks.

## COMMENT

Five cases of bromide psychosis are reported, having been observed during a period of six months on a general medical service. In only one of these cases was the daily dosage of sodium bromide above the ordinary therapeutic dosage as recommended by the pharmacopoeia. In the diagnosis of bromide delirium one must differentiate it from acute and chronic alcoholism, Korsakoff's syndrome, encephalitis, brain tumor, senile psychosis, uremia, dementia paralytica and taboparesis. The threshold of intoxication varies from 150 to 200 milligrams of sodium bromide per 100 cc. of blood serum, the majority giving 150 as danger zone, which represents about twenty per cent replacement of the chlorides by bromides. A rather high bromide concentration may be necessary for the optimum therapeutic results in such conditions as epilepsy, but if the convulsions are not controlled at 175-200 mgm. per 100 cc. serum, Wuth advises against further bromide therapy.

In all suspected cases the diagnosis can be made more probable or ruled out by the qualitative test for bromide in the urine. Wuth describes the procedure as follows: To 25 cc. of urine, add 1.0 Gm. of animal charcoal; mix well, allow to stand a few minutes, and filter. To 5 cc. of the filtrate, add 1 cc. of thirty per cent trichloracetic acid and 1 cc. of 0.5 per cent gold chloride solution. A brown shade denotes a positive reaction. Sharpe states that this test is not specific and that iodides produce a similar color with gold chloride. Our laboratory uses the Walter modification of the Hauptman method, which involves the use of blood serum with the addition of gold chloride, producing a color change corresponding to the bromide concentration, varying from yellowish green brown to a red brown. The procedures for the determination of the blood bromides and spinal fluid bromides, together with the directions for making the standard solutions can be found by consulting Katzenebogen and Goldsmith's paper.[10] One important fact to remember is that the method of quantitative blood chloride determination is not specific for chlorides, but represents all the halogen group. In spite of the fact that the blood bromide level may be quite high, the blood chloride determination may be lower than normal because of the higher molecular weight of the sodium bromide. One mistake to be avoided in the making of the bromide standard is to use the pure salt, as the crystals contain two molecules of water of crystallization.

| Case No. | Age | Sex | Diagnosis | Days of Bromide ℞ | Total grains Bromide | Daily aver. grains | Mgms. NaBr per 100 cc. blood serum | Symptoms |
|---|---|---|---|---|---|---|---|---|
| 1 | 45 | M | Psychosis | 40 | 1,800 | 45 | 143 | Parasthesias |
| 2 | 35 | F | Hypogonad. | 118 | 7,080 | 60 | 135.1 | Numbness, etc. |
| 3 | 52 | F | Endocrine | 101 | 6,060 | 60 | 100.0 | None |
| 4 | 54 | F | Art. Scler. | 28 | 1,260 | 45 | 83.3 | None |
| 5 | 42 | F | Nephritis | 10 | 600 | 60 | 122.9 | Dizziness |
| 6 | 40 | F | Endocrine | 140 | 8,400 | 60 | 33.3 | None |
| 7 | 45 | F | Psychosis | 172 | 5,160 | 30 | 212.7 | None |
| 8 | 53 | F | Cholecyst. | 25 | 1,500 | 60 | 92.0 | None |
| 9 | 34 | F | Neurasthenia | 62 | 3,720 | 60 | 64.9 | None |
| 10 | 77 | M | Nephritis | 21 | 472 | 23 | 168.5 | Slight Delirium |
| 11 | 45 | M | Arthritis | 24 | 2,040 | 85 | 168 | None |
| 12 | 40 | F | Endocrine | 54 | 2,430 | 45 | 172.4 | Tremor, hand & tongue |
| 13 | 43 | M | Arthritis | 24 | 1,260 | 52.5 | 273 | Mildly irrational |
| 14 | (Above patient) | | | 26 | 2,080 | 80 | 389.6 | Paranoia & delirium |
| 15 | 17 | F | Amenorrhea | 74 | 4,440 | 60 | 46.3 | None |

Fig. 2—Table showing blood bromide determinations on 15 patients seen regularly in the Out-patient Department of the University of Kansas Hospital, where we were able to tabulate the duration of bromide administration, the average daily dosage, total amount of bromide given, and the toxic symptoms if any were present. Case 14 is same as Case 13, but four months after complete recovery from first bromide dosage.

If the salt is not available the water can be driven off by heating for a short time in a dry oven.

| Mgms. Sod. Bromide per 100 cc. of blood serum | Mgms. Sod. Bromide per 100 cc. of spinal fluid |
|---|---|
| 280.8 | 130 |
| 280 | 121 |
| 275 | 112 |
| 270 | 110 |
| 250 | 112 |
| 225 | 98 |

Fig. 3—Showing comparative amounts of sodium bromide in the blood serum and spinal fluid of the same patient on the same day; determinations on four patients.

## SUMMARY

In order to ascertain which type of patient is most likely to develop bromide retention we have run blood bromides on a small series of patients in our out-patient department, both the total and daily average bromide dosage being known to us. Of interest is that Test Case Number 7 had a blood bromide concentration of 212.7 mgm. per 100 cc. serum after taking thirty grains daily for 172 days, yet had no symptoms of bromism. Test Case Number 10 with arteriosclerosis and hypertension and chronic nephritis developed a mild delirium when the blood bromides reached 168.5 mgm. per 100 cc., which disappeared after the drug was discontinued. This patient took but 22.5 grains for a period of twenty-one days. Further comparisons are tabulated in Fig. 2.

Thinking it possible that bromide determination on the spinal fluid might be a more sensitive indication of the patient's mental state, we did a small number of such determinations. The relation of the findings of sodium bromide content of spinal fluid and blood serum taken at the same time on the same patient is shown in Fig. 3. From this it can be seen that the blood bromides and spinal fluid bromides run closely parallel, and the spinal fluid determinations cannot therefore be considered superior to those of the blood serum in making the diagnosis or prognosis.

The treatment is supportive and eliminative. All medication containing bromide should be discontinued immediately. If the patient's condition is such that he is unable to take sodium chloride by mouth, sodium chloride should be given by hypodermoclysis. It was given intravenously in Case 4 of our series, but is not necessary. In the majority of patients the administration of six to eight grams of sodium chloride by mouth daily is adequate. Some authors warn against the too rapid replacement of bromides with chlorides, as the symptoms may be aggravated by driving the bromides from the tissues with a resultant increased concentration of them in the blood.

## BIBLIOGRAPHY

1. Andrews, Mallory S.: Bromide Psychosis or Bromide Intoxication. Virginia M. Monthly, 57:304-306. Aug. '30.
2. Landenheimer, R.: Wanderversammlung suedwestdeutcher Irrenaertse. Berl. Klin. Wchnschr. 36, 1901.
3. Wuth, Otto: Rational Bromide Therapy: New Methods for Its Control. J.A.M.A., 88:2013-2017 (June 25) 1927.
4. Diethelm, Oskar: Bromide Intoxication. Internat. Clin., 1:78-95, (March) 1930.
5. Wagner, C. P., and Bunburg, D. Elizabeth: Incidence of Bromide Intoxication Among Psychotic Patients. J.A.M.A., 94:1725-1728, Dec. 6, 1930.
6. Doane, J. C., and Weiner, J. G.: Bromide Intoxication. M. J. & Rec., 134:585-588, Dec. 16, 1931.
7. Sippi, C. H., and Bostock, J.: Some Observations on Bromide Therapy and Intoxication. M. J. Australia, 1:85-90, Jan. 16, 1932.
8. Wainwright, C. W.: Bromide Intoxication. Internat. Clin., 1:78-95 (March) 1933.
9. Solomon, R. A.: Bromide Therapy and Intoxication. J. Indiana M. A., 26:424-427 (Sept.) 1933.
10. Katzenebogen, S., and Goldsmith, H.: The Hemoencephalic Barrier—Diagnostic Value of the Bromide Test in Mental Disease. Am. J. of Psychiat., 10:1045-1055, 1931.

# GIANT CELL TUMOR*

## Report of Case Involving Mastoid

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Giant cell tumor is defined as a benign growth in bone characterized by the presence of giant cells of the foreign body type. It is most frequently found in the ends of long bones, but is found in the shaft also. It occurs in the jaw as an epulis and also may occur in the flat bones and the vertebrae.

The exact cause is not known. Trauma may be a possible exciting factor. It has been considered an inflammatory reaction and Barrie[1] has given it the name Hemorrhagic Osteomyelitis. The name "benign giant cell tumor" defines it definitely as not true sarcoma. Coley,[2] however, has held "that there are certain number of giant cell tumors which are originally, or become later, malignant metastasizing tumors and that it is not always possible for the most experienced pathologist to differentiate the malignant from the benign type in the early stages of the disease." He does not, however, wish all these to be treated as malignant disease but recommends the removal of the tumor itself.

The tumor is vascular and resembles granulation tissue, its color is mottled on the surface with yellowish areas scattered throughout it,

*Read at the Sectional Meeting of the American College of Surgeons at Kansas City, March 13, 1935.

usually lighter at the center than at the periphery. The lighter color in the center is apparently due to degenerative changes and the center of the tumor is usually softer than the outer portion. It is fairly firm, is easily shelled out of its capsule and when it has perforated the bone may be quite firmly adherent to surrounding tissue and may bleed quite profusely. Ewing and Herendeen[3] have emphasized hemorrhage as one of the dangers of surgical removal and infection the other, the latter due in most instances to the failure to obtain primary union. Microscopically these tumors are made up of fibroblastic cells, round cells, and numerous blood capillaries resembling granulation tissue, with typical giant cells of the foreign body type.

Haas[4] says "pain may be the first symptom, often swelling appears without any previous disturbance. The tumors are usually of slow growth and seldom occur before twenty years of age." Although the one I am reporting today appeared at eight years of age. "They usually appear at the end of the long bones although cases have been reported in the middle of the shaft. They do not break through the periosteum ordinarily, but when they do they retain their benign nature. They may extend from one bone to another along interosseous membranes, they seldom invade the epiphyseal plate but spread away from it, thus differing from malignant tumors."

These tumors must be differentiated from osteitis fibrosa and from sarcoma and are sometimes found associated with bone cysts. Cases have been reported in which there has been a transition of osteitis fibrosa to giant cell tumor. An early sarcoma may be difficult to differentiate but in the later stages the marked bone destruction with infiltration and more rapid growth in malignant tumors' changes the picture. Exploratory incision or biopsy is necessary for positive information. It was formerly held that biopsy was not justifiable in these cases but more recently it has become accepted as a good procedure, reasoning that the advantage to be gained is greater than the risk assumed.

The treatment is ordinarily surgical for if they do recur it is at the original site and they do not metastasize. Irradiation is used with varying success. The use of Coley's toxins, with or without surgery, and with or without irradiation, has yielded good results in Coley's hands. There is no objection to the use of Coley's toxins after surgery and in some cases irradiation has unquestionable advantages. Thorough curettage down to healthy bone remains the procedure of choice.

## REPORT OF CASE

P. T., age eight, white, female, was first seen December 13, 1934, complaining of a painless swelling behind the right ear. A small lump behind the right ear was noticed in August, 1934. This grew rather slowly for the first two months, but quite rapidly thereafter. The patient did not have a cold, sore throat, earache, or any discharge from the ear. There was no associated pain or tenderness. There were no other complaints. Her health had always been good, and there was no family history of tuberculosis or cancer.

She was fairly well nourished, and her color was fairly good. Behind the right ear was a globular tumor with a sessile base blending with the skull. The growth pushed the ear outward and forward, and apparently arose from the mastoid and adjacent skull. It measured about eight centimeters across at the base and extended out at least five centimeters from the skull. The skin over it was pale and freely moveable, but the veins were a little prominent. There was no discharge from the ear. The tumor mass was somewhat soft, but did not fluctuate and was not tender. There were no enlarged glands in the neck nor any abnormal pulsations. There was no evidence of cranial nerve involvement. The teeth and gums were in good condition. The tonsils were large, but not inflammed. The heart, lungs, and abdomen were normal. The pulse rate was eighty. The temperature was 98.6. Reflexes in the extremities were normal.

A roentgenogram showed destruction of both plates of the skull with about two-thirds of the mastoid, the opening into the skull measuring about five centimeters in diameter.

After consultation with Dr. Thor Jager of Wichita, who saw the patient, and Dr. E. H. Skinner of Kansas City, who reviewed the roentgenograms, biopsy was decided justifiable. The patient was admitted to St. Mary's Hospital on December 31, 1934. On January 1, 1935, under ether anaesthesia, a biopsy was done through a curved incision behind the ear. The periosteum was opened and a piece of tis-

**Fig. 1—Lateral view of mastoid area showing extensive destruction of mastoid and both plates of skull.**
**Fig. 2—Anterior posterior view of skull.**
**Fig. 3—Section of biopsy specimen.**

FIG. 1

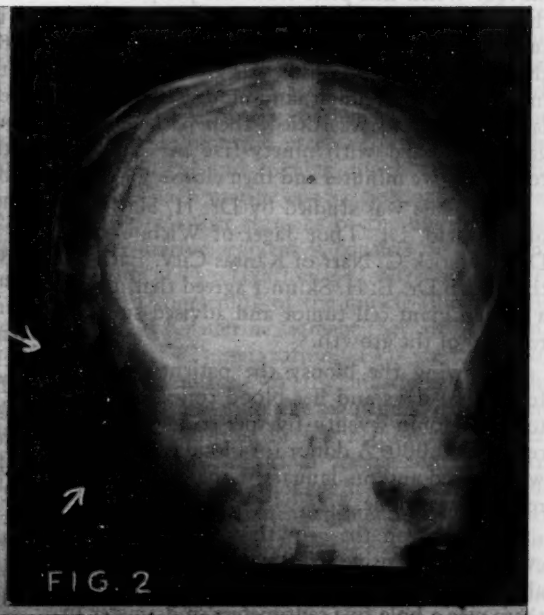

FIG. 2

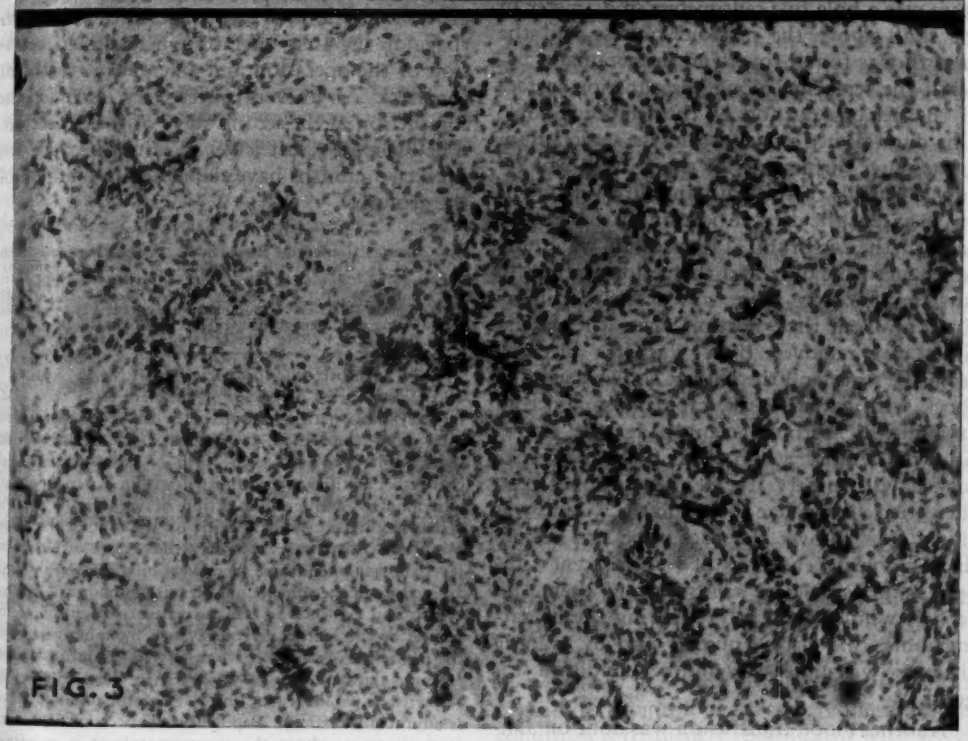

FIG. 3

sue, one by one and a half centimeters, was removed. When this piece from the periphery of the growth was removed, over an ounce of tumor contents was spontaneously expelled through the incision. This was greenish yellow in color, highly cellular, and moderately vascular. The wound was dried, then packed with gauze saturated with ninety-five per cent alcohol for five minutes and then closed.

The tissue was studied by Dr. H. H. Jones of Winfield, Dr. Thor Jager of Wichita, and Dr. Frederick C. Narr of Kansas City. Each of these with Dr. E. H. Skinner agreed that it was a benign giant cell tumor and advised surgical removal of the growth.

Following the biopsy the patient vomited for several days and her blood count dropped to hemoglobin seventy-five per cent, red blood cells 3,780,000. A donor for blood transfusion was secured and on January 7 the first stage of removal was done.

At operation the growth was found to be even more extensive than was suspected, nearly all of the mastoid was involved and destroyed, there was a hole five centimeters in diameter in the skull above the mastoid process and the growth was found to extend intracranially beneath the cerebrum along the superior surface of the petrous portion of the temporal bone. The dura seemed intact as did the pericranium on its outer surface. All of the growth was removed outside of the skull and all of it on the inside except the deepest portion of the growth beneath the cerebrum. The growth was quite adherent to the dura and the perioteum and in curetting it away there was excessive hemorrhage. When that portion over the lateral sinus was removed there was free bleeding from the sinus and the patient showed signs of shock with a very weak, rapid pulse and cold extremities. Without completing the operation, the wound was packed, first with gauze soaked with ninety-five per cent alcohol, and then with a dry gauze pack, and the wound was closed loosely over the pack. She was immediately given Venoclysis of five per cent Glucose in physiological salt solution, then 160 cc.'s of whole blood before leaving the operating table. She reacted quickly and by evening the pulse was under 100 and her condition was good.

Another blood transfusion was done on January 8 and on January 21 the operation was completed. The second stage was done without difficulty and without excessive hemorrhage. In the operative procedure all of the mastoid cells were completely cleaned out and the edges of the bone around the opening in the skull were nipped away back to normal bone. Most of this was done at the first stage and a very careful clean-up was done at the last stage. The wound was again thoroughly dried, packed with gauze saturated with ninety-five per cent alcohol and every portion wiped out with alcohol. A rubber wick drain was inserted and the wound was closed with interrupted silk sutures. The drain was removed in forty-eight hours. The recovery was continuous and uneventful. She returned to school on the eighteenth day of February and the wound was entirely healed by February 24.

In conclusion a summary may be of interest. A brief resume on giant cell tumor has been given. A case has been reported occurring in a child of eight years of age, the growth involving the skull extensively and encroaching upon the intracranial contents. There was no pain associated with the growth. A biopsy study established the diagnosis of giant cell tumor. Surgical treatment by curetting away the growth was done in two stages because hemorrhage at the first operation necessitated cessation of the operation and emergency treatment for shock. An uneventful recovery followed the completion of the second stage of the operation. The ultimate result is yet in doubt because less than two months have elapsed since removal of the growth.

BIBLIOGRAPHY

1. Barrie: Quoted by Haas, S. L., Lewis Practise of Surgery, Vol. II, Hagerstown, Maryland, W. F. Prior Company, Inc., page 20, Chapter I, 1927.
2. Coley, W. B.: The Cyclopedia of Medicine, Vol. XII, Philadelphia, F. A. Davis Company, page 446, 1934.
3. Ewing and Herendeen: Quoted by Coley. Ibid.
4. Haas, S. L.: (Reference 1).

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C. W. Rutherford, Iowa City (J.A.M.A., April 27, 1935), states that diagnoses of undulant fever were made in sixty-three patients admitted to the University Hospital from June 1927 to August 1934. Three of the series, white men aged from 20 to 27 years, showed disk changes. The three were admitted within a period of fifteen months. Melitensis infection of the central nervous system occurs occasionally with or without ocular complications. A summary of sixty-three cases of undulant fever shows that in three there were bilateral papilledema, an increase in the spinal fluid pressure, mononuclear pleocytosis and evidence on which to base a diagnosis of infection of the central nervous system by some variety of the melitensis organism. Five cases were found in the literature; the disk changes observed in them can be interpreted as papilledema. The diagnosis of undulant fever is admittedly difficult. Papilledema is occasionally found in patients in whom the symptomatology is indefinite and leading signs are absent. It is in such cases that undulant fever should be considered in the differential diagnosis.

# THE DYSTOCIA OF THE VERTEX PRESENTATION*

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Of the cephalic presentations the vertex presentation remains the most important problem in the mechanism involved, in the diagnosis, and the management. The basic principle is one of physiology of the mechanism of labor which, when applied to the clinical course of labor will make it safer for the mother and the child. The vertex presentation dystocia is in the main due to a disturbance of the physiology of the uterus characterized by a definite dystocia syndrome, and when managed with intelligent expectancy, and the prevention of maternal exhaustion will be found to give the best results to the general profession.

The mechanism of labor, as expostulated by Naegele, was based on his obstetric knowledge of the physiology of the natural phenomena of labor. The division of the mechanism of labor into movements was based on natural phenomena instead of on the premises of the mechanical theorem that the bony pelvis was of primary importance.

A consideration of the normal mechanism of vertex presentation involves three factors: the posture of the fetus, physiology of the uterus, and the bony pelvis.

The normal posture of the fetus is due to a fetal postural mechanism. During the embyronic period and up to about the middle of pregnancy the fetal posture is one of flexion. From the middle of pregnancy to term the fetal head is either in flexion or in a partial deflexion attitude which is due to the fetal postural mechanism whether the station of the fetal head is floating high or low. With the onset of labor, uterine contractions cause flexion of the fetal head during the contraction phase of a uterine contraction, but during the interval between the contractions the lever or wedge action to account for the mechanism is absent, because there is no force applied to the fetus and the head will remain in an attitude of flexion or will return to partial deflexion brought about by the fetal postural mechanism. This attitude of flexion is the important movement for the normal mechanism of labor.

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The physiology of the uterus during normal labor consists of the physiologic division of the uterus into two segments, the upper and lower uterine segments. The different physiologic responses of the two segments are dependent upon a uterine contraction. The unit of work accomplished by the uterus is dependent upon the physiology of a uterine contraction on the longitudinal and circular muscle fibers of the uterus. Each uterine contraction exhibits three phases in either segment of the uterus. In the upper uterine segment it consists of (1) contraction, (2) relaxation, (3) retraction or permanent shortening of the muscle fibers; while in the lower uterine segment they are (1) contraction, (2) relaxation, (3) stretching or thinning in tone of the muscle fibers. The upper and lower uterine segments during a contraction, function in a synchronous manner, so that during a normal uterine contraction of the first stage of labor we have a synchronous retraction or permanent thickening of the upper uterine segment, a stretching or thinning in tone of the lower uterine segment, rising of the retraction ring, and relaxation in tone of the circular muscle fibers of the lower pole of the uterus leading to effacement and dilatation of the cervix uteri. When the uterine contractions function as described, we have true uterine contractions with a resulting progressive dilatation of the cervix. But, if the uterine contractions do not result in retraction or permanent shortening phase of the upper uterine segment, and no stretching or thinning phase of the lower uterine segment, then the retraction ring does not rise, and no work is being accomplished. Such contractions are referred to as false labor pains, or more accurately, false uterine contractions explaining prolonged or slow cervical dilatation. During a prolonged first stage of labor the uterine contractions frequently change from true to false in the reverse order which explains why the prolonged cervical dilatation accounts for the prolonged first stage of labor. It is essential to understand that cervical dilatation is not a local manifestaion, but rather the manifestation of uterine changes as a whole. Rudolph and Ivy[1] designated cervical dilatation as the "barometer" of the physiologic motor activity of the uterus.

When the uterus manifests disturbance of its physiology by prolonged cervical dilatation this condition is frequently complicated with arrested or prolonged internal anterior rotation of the fetal head as demonstrated by Rudolph and

Ivy.[1] Another manifestation of uterine dysfunction is a delay in the "phenomenon of lightening." Lightening normally takes place during the last month of pregnancy and is the final preparation of the uterus for labor caused by an active relaxation of the lower uterine segment and the passive descent of the presenting part into the pelvic cavity. But, this "phenomenon of lightening" may be delayed to the onset of labor, to any period of the first stage of labor, and, occasionally, to the second stage of labor which accounts in many instances for the high or floating head in cases of normal cephalo-pelvic relation.

The bony pelvis plays a passive role during the first stage of labor in a normal cephalo-pelvic relation. It is essential to recognize the natural course of labor in that in the majority of occiput posterior positions the movement of internal anterior rotation takes place during the first stage of labor when the presenting part is in utero to an occiput anterior position, so that the pelvic cavity does not take any part in this movement.

An etiologic basis of the cephalo-pelvic relation is of prime importance in the management of the patient during pregnancy and labor. The conditions present will determine the indication and our diagnostic ability and experience will determine the safety of the selected procedure for mother and child. The interpretation of the etiologic factor will in the main decide whether the delivery will be abdominal or vaginal. The author will classify the etiology of the vertex presentation when complicated by dystocia into functional and mechanical.

The Functional Dystocia forms the most important group because clinical experience teaches that when a vertex presentation is complicated by a prolonged first stage labor with no evidence of cephalo-pelvic disproportion, it is essential to inquire into the cause of the dystocia. When complicated with dystocia, we observe a dystocia syndrome of three cardinal conditions, namely, prolonged cervical dilatation, delayed descent, and arrested or prolonged internal anterior rotation of the fetal head. I intend to demonstrate that this syndrome is primarily due to a disturbance of the physiology of the uterus. Another important complicating condition in the vertex presentation is deflexion of the fetal head, diagnosed during the last month of pregnancy or early in labor, by palpation or roentgenogram, which corrects itself spontaneously during pregnancy or labor, and is followed by normal occipital delivery. These temporary deflexion attitudes are in the main due to a temporary uterine dysfunction, but must be carefully watched because they may further deflex into a brow or chin presentation when art must intervene early in the second stage of labor. Functional dystocia, also, complicates occiput anterior positions. Therefore, functional dystocia is a first stage dystocia, and bears no relation to the bony pelvis.

The Mechanical Dystocia forms a definite group in which the cephalo-pelvic relation is disturbed on mechanical grounds, so that if the uterine physiology is normal the mechanical factor will interfere with the normal mechanism of labor. When a labor is complicated by contracted or deformed pelvis, pelvic neoplasm, prolapsed extremities, malpositions, malpresentations, fetal malformations or neoplasms, or an oversized fetal head the management is one of cephalo-pelvic disproportion. Another small group manifests a mechanical obstacle to the egress of the ovoid from the uterus which is due to pathologic changes of the cervix uteri, i.e., stenosis of the cervix. This condition, if not diagnosed or suspected either during pregnancy or early during the second stage of labor, may lead to rupture of the uterus, severe laceration of the cervix with hemorrhage, or annular amputation of the cervix. (2) This dystocia may be complicated by uterine dysfunction.

The first requisite in the management of a pregnant woman concerning her labor consists of the diagnosis which is divided into two stages, prenatal diagnosis and the diagnosis in labor.

The Prenatal Diagnosis is that supervision between the thirty-sixth and fortieth week of pregnancy. Pelvimetry is only important insofar as it gives us relative information as to the size of the bony pelvis. It does not tell us that the fetal head is oversized, deflexed, or asynclitic, therefore, we must not be lulled into a sense of security of normal cephalo-pelvic relation because the pelvic measurements are normal.

At the thirty-sixth week we can determine by rectal examination the station of the fetal head. If the fetal head is in the pelvic cavity, one can feel assured that the "phenomenon of lightening" has occured, and in the majority of cases the pelvic relation is and will be adequate when the labor sets in. Occasionally the fetal head will rise out of the pelvic cavity by either becoming oversized or as a result of a

complicating hydramnios. If the station of the fetal head is high or floating, one must determine whether it is due to a functional or to a mechanical factor. The differential diagnosis between the two is made by the impression method of Muller-Pinard, Monroe Kerr, or Hillis. If the head is impressed into the pelvic excavation, one diagnoses the cause as being due to a delay in the "phenomenon of lightening." If the fetal head is not impressable one diagnoses the condition as a disproportion of either an absolute or a relative or border-line cephalo-pelvic disproportion. By weekly examinations we make the diagnosis, so that when the patient goes into labor, the conditions present will determine the indication for the given patient. Irrespective of the conditions present from the thirty-sixth to the fortieth week of pregnancy, one cannot prognosticate whether the uterine physiology will proceed in a normal or abnormal way in the oncoming labor.

DIAGNOSIS EARLY IN LABOR: The patient should be examined as soon as possible after the onset of labor in order to determine whether uterine dysfunction has complicated the presentation. When the head is low in the pelvic cavity a partial deflexion attitude is of no importance because it is due to uterine activity or the fetal postural mechanism which in itself will not be a cause of dystocia. When the fetal head is high, we must be on our guard because it may deflex into a brow or chin posterior presentation and asynclitism which condition may be of serious import for the safety of the mother and the child, if not diagnosed in time.

A floating or high head does not signify a disproportion because in many cases it is due to a delay in the "phenomenon of lightening." If there is any doubt in regard to the etiologic factor of the station of the head then the impression mehod should be employed under an anaesthetic. A delay in the relaxation of the lower uterine segment is practically a temporary condition, so by intelligent expectancy this factor will right itself under conservative management.

The diagnosis of the physiology of the uterus or the clinical course of the labor is governed by the progress of cervical dilatation. The physiologic changes of the uterus are determined by the cervical changes which serve as the "barometer" of the physiologic motor activity of the uterus. When cervical dilatation progresses in a normal manner, one can prognosticate the approximate duration of the labor, since the "barometer" informs us that we are having true uterine contractions. These contractions result in thickening of the upper uterine segment while the lower uterine segment is thinning and the retraction ring is rising. This knowledge is corroborated by a study of frozen sections in the various periods of the first and second stages of labor, and by the living physiologic changes observed during the performance of Caesarean sections.

To recapitulate the diagnosis of a given case requires that the following conditions be noted: (1) cephalo-pelvic relation, (2) station of the fetal head, (3) synclitism or asynclitism, (4) the nature of the uterine contractions, true or false. These conditions being known the clinical course will determine the given indication for the safety of the mother and child.

The management of the vertex presentation dystocia will be discussed under the etiologic division of the mechanical and functional.

THE MECHANICAL DYSTOCIA: This is a condition in which there is a cephalo-pelvic disproportion which may be divided into an absolute and a relative or border-line disproportion. I am avoiding discussing the value of pelvimetry because of many factors that come into play to make the measurements useless. I am convinced that the impression method is the safest method of diagnosing and evaluating disproportion. The absolute cephalo-pelvic disproportion should be diagnosed during the prenatal supervision. It constitutes a definite indication for an elective Caesarean section to be performed at term before or very soon after the onset of labor.

THE RELATIVE OR BORDER-LINE CEPHALO-PELVIC DISPROPORTION: This is the criterion of our obstetric knowledge and diagnostic skill. The diagnosis should be made before the patient goes into labor in order to suspect a potential disproportion and so to be prepared for whatever indication will present itself. The problem is, will the fetal head mould sufficiently to pass through the pelvic cavity? The condition is a relative disproportion and the indication resolves itself into the question of abdominal or vaginal delivery. It is this type of case in which the diagnosis must be made with great care because upon the indication decided upon will depend the welfare of the mother and the child. I rely on the impression method for the indication for delivery, if necessary under an anaesthesia. During the prenatal supervision when a diagnosis is made of a border-

line disproportion, the indication may be induction of labor before term, Caesarean section, or a test of labor.

The induction of labor will be decided upon between the thirty-sixth and fortieth week of pregnancy. This method has proven itself of distinct value to me, but we must consider the premature child, infection, and occasionally the difficulty in inducing labor.

Caesarean section is a definite indication when the diagnosis is made and we feel that the section is the safest indication for that particular case. In this type of disproportion the section should be done under the same condition as in an absolute cephalo-pelvic disproportion.

If the vaginal route is elected then in the majority of cases the abdominal route is closed, and the parturient is given a test of labor of the anatomico-physiologic school, which may be terminated by spontaneous delivery, forceps, pubiotomy, Caesarean section, or craniotomy; and occasionally by either a Porro or Portes Caesarean section. When the vaginal route is elected then we give the patient the test of labor, and the test of labor that I suggest is the anatomico-physiologic school which is complete cervical dilatation, rupture of the membranes, and at least two hours of second stage true uterine contractions. This type of test of labor is governed by a knowledge of the anatomy of the maternal pelvis and fetus, the physiology of the uterus and fetus, and clinical experience. In order to carry out this test of labor, it is essential to be on guard for any complication that may arise in the course of labor.

A brief consideration of the anatomico-physiologic test of labor will not be amiss in order to demonstrate the ability of nature. In a border-line cephalo-pelvic disproportion nature attempts to overcome the disproportion by the head entering the superior strait in the transverse diameter in contracted pelvis, and in the oblique diameter in cases of generally contracted pelvis. Now, moulding is a second stage process, because it depends upon the movement of descent. The fetus during the first stage of labor is stationary, that is after the final phase of the relaxation of the lower uterine segment or the "phenomenon of lightening," on account of the resistance that the presenting part meets from the lower pole of the uterus. The second stage begins when the presenting part meets with no resistance from the lower pole of the uterus, and the continued true uterine contractions bring about a decrease in the uterine cavity which forces the fetus downward and constitutes the mechanism of the movement of descent. With the movement of descent the fetal head meets the resistance of the pelvic cavity, so that moulding may be considered as a movement in cases of disproportion in order to accommodate the fetal head to the pelvic cavity. It is readily understood that in order to diagnose a border-line case that we must allow the proper mechanical phase of nature to ass'st us in the indication we have decided upon through the aid of the physiologic function of the uterus.

If we elect the vaginal route for delivery, we must during the course of the test of labor diagnose certain complicating conditions that may present themselves and be ready to act promptly. The test of labor implies a true second stage labor, but in a relative cephalo-pelvic disproportion it is imperative to recognize the fact that the first and, even, the second stage of labor, may be complicated by uterine dysfunction or the so-called inertia uteri which is accountable for the prolonged labor. Therefore, it is most important to realize that, if the labor is complicated by uterine dysfunction it is the dysfunction that is the cause of the prolonged labor and not the element of disproportion, which condition frequently complicates occiput anterior positions. If a relative cephalo-pelvic disproportion is complicated by uterine dysfunction this complication is managed as I will discuss under the functional dystocia.

Now, during the course of a test of labor the uterine force may complicate the presentation by asynclitism, or a normal flexed head may be misdirected onto some part of the pelvic inlet which may cause pressure necrosis on some part of the lower uterine segment followed by rupture of the uterus. This complication may take place during the first and second stage of labor for which we must be on our guard for the indication.

THE FUNCTIONAL DYSTOCIA: This is, in my opinion, the most important problem before the medical profession today. The White House Conference on Child Welfare and the committees appointed by various medical societies throughout our country are studying the problem of the high maternal mortality. From the cry of Semmelweiss of sepsis as the cause of obstetric mortality, we find that puerperal sepsis is still the greatest factor of maternal obstetrical deaths. It is well known that operative interference has greatly increased, and it is, also, an

accepted criterion that operative interference increases the morbidity, so that we can easily speculate that since the morbidity has increased, we must have an increased maternal mortality due to sepsis at this stage of the progress in obstetrics.

The first essential consideration is our understanding of functional dystocia. This condition is due to a disturbance of the normal physiologic aspect of the mechanism of labor when the cephalo-pelvic relation is normal. Functional dystocia is characterized by a dystocia syndrome which in the main consists of: (1) Prolonged cervical dilatation. (2) Delayed descent. (3) Arrested or prolonged internal anterior rotation of the fetal head. These criteria are due to a disturbance of the uterine physiology and I will discuss them briefly.

PROLONGED CERVICAL DILATATION: The first essential fact that I wish to emphasize is that cervical dilatation per se is not a local manifestation, but is a part of the physiologic changes of the uterus as a whole. Rudolph and Ivy[1] have designated the cervix as the "barometer" of the physiologic motor activity of the uterus. The progressive changes of the uterus are due to true uterine contractions which bring about certain definite anatomico-physiologic changes such as, retraction or permanent thickening of the upper uterine segment, thinning or stretching of the lower uterine segment, rising of the retraction ring, relaxation of the circular muscle fibers of the lower pole of the uterus leading to cervical dilatation and the movements leading to the expulsion of the fetus.

The problem in arrested or prolonged cervical dilatation is the disturbance of the physiology of the uterus. I have described the physiology of uterine contractions. Clinical experience demonstrates that when the cervical dilatation is arrested or prolonged that the parturient manifests uterine contractions, but no progress in cervical dilatation. Since uterine contractions are present, but no progress takes place in cervical dilatation, we must accept the premise that in the physiology of a uterine contraction the retraction and thinning phase of the upper and lower uterine segments are absent which is designated as false uterine contractions. By the use of the term false or true uterine contractions, we derive greater information as to the underlying uterine changes manifested by the "barometer," the cervix. The term "labor pain" is no index of the underlying changes of the uterus, because a labor pain is a subjective manifestation of a contraction of the uterus, and the subjective response of a patient to a labor pain depends upon the emotional state and the degree of sensitivity of the pain nerve endings in the uterus which may vary in different patients and in the same patient from time to time. The designation of a uterine contraction as "weak" or "strong" is neither of clinical nor physiologic value. It is well known that cervical dilatation can occur with very slight uterine contractions, while strong uterine contractions may show no progressive cervical dilatation with the result that the labor is prolonged. Therefore, labor in a vertex presentation dystocia is prolonged on account of the disturbance of the physiology of the uterine contractions and up to this time we have no drugs or procedure to hasten cervical dilatation, except by intelligent expectancy in preventing maternal exhaustion.

The vertex presentation consists of the occiput anterior, occiput posterior, occiput transverse, brow, and occipito-sacral positions. These positions during the prenatal supervision may be normal vertex mechanism in the oncoming labor, but we cannot prognosticate whether these positions when high or low in the pelvic cavity will or will not be complicated by uterine dysfunction. We do know from clinical experience that normal ociput anterior positions diagnosed by palpation and roentgenogram, high or low, are frequently complicated by dystocia. The so-called persistent occiput posterior position has been dignified as a distinct entity to which I do not subscribe. We know that the majority of our occiput posterior positions descend into the pelvic cavity and rotate into an occiput anterior position for normal delivery. Again, we know from clinical experience that occiput anterior positions may be complicated by dystocia. The occiput transverse position may be a primary position or the result of rotation from an occuput posterior position complicated by an arrest in the transverse diameter and dystocia. These vertex presentations with dystocia are complicated by the dystocia syndrome.

This dystocia syndrome is the bugbear of our obstetric experience and it is of fundamental consideration because if we could control or regulate them we could with art assist the parturient to safety. The first evidence of this dystocia is the arrested or prolonged cervical dilatation which is due to uterine dysfunction. We

know that even with the use of dilating bags, we have many failures. In many cases a large dilating bag is expelled and the cervix contracts down to its original dilatation or with the bag in situ no uterine activity results. The use of the dilating bags is to bring about labor by a reflex mechanism that initiates true labor, but if the dilating bag brings about only mechanical dilatation of the cervix without physiologic changes of the uterus then the dilating bags have been useless and we have increased the risk of sepsis on account of intrauterine manipulations. The second condition is failure of the movement of descent which is frequently present in functional dystocia. During the first stage of labor a high head is due to a delayed "phenomenon of lightening" and if the second stage is complicated by uterine dysfunction, failure of descent is due to false uterine contractions and the delayed "phenomenon of lightening." The third condition is an arrested or delayed internal anterior rotation of the fetal head. This movement is a controversial one, but Rudolph and Ivy[1] on the basis of comparative obstetrics have expressed the opinion that the uterus is the active basis of the rotation. I am convinced of this mechanism from clinical observation because I have frequently observed the fetal head rotate from a posterior position to an anterior position while the fetal head was in utero and did not come in relation to the pelvic floor, inclined planes, or ischial spines, so that I am convinced that the pelvic cavity is not an aid to the natural phenomena of labor that holds good in the mechanism of rotation in the lower animals. Since the uterus is the cause, I believe that any disturbance of the uterine physiology is the responsible factor for the arrested or delayed internal anterior rotation of the fetal head and not the mechanical theorem of the mechanical phase of the pelvic cavity.

I have avoided emphasizing the deflexion attitudes as a cause that may be found with dystocia of the vertex presentation because I am convinced that the degree of deflexion of the fetal head, except a brow presentation, does not play any role in the dystocia, but is the result of the dystocia. If a vertex presentation is complicated by a partial deflexion attitude it is due either to the fetal postural mechanism or to uterine dysfunction as the underlying factor. Now, in a dystocia the partial deflexion plays no role in the prolongation of the first stage of labor because it is of secondary consideration in the dystocia syndrome and in the majority of cases the partial deflexion attitude will correct itself when the uterine physiology has returned to normal function. This condition of partial deflexion is best demonstrated in the clinical course of the so-called persistent occiput posterior position of the functional dystocia when complicated with a deflexion attitude. Now, in the persistent occiput posterior the dystocia is primarily due to uterine dysfunction and a review of the literature appears to be that a persistent occiput posterior must be associated with a deflexion attitude. This does not agree with my experience, because I have found just as many cases of flexion as deflexion attitudes in the persistent occiput posterior and they will correct themselves when the uterine physiology begins to function normally. If the deflexion attitude per se was an important complicating condition in persistent occiput posterior then cases of impaction should take place in the narrow pelvic plane of Hodge with rupture of uterus if mismanaged. I have never met with a case of ruptured uterus in this type and I have reviewed the literature and have failed to find a report of a spontaneous rupture of the uterus in the functional dystocia type. Please note that I differentiate between a brow position and presentation. A brow position is a temporary deflexion attitude diagnosed during the prenatal supervision which corrects itself during pregnancy or spontaneously during labor, but when diagnosed must be carefully watched for fear that the position may become a presentation. A brow presentation is a permanent deflexion attitude and if not properly managed very early in the second stage of labor will result in impaction which may prove to be of serious consequence to mother and child. If a brow presents itself, we should manage it at the onset of the second stage of labor by a manual correction and then leave it to nature, or to perform a version and extraction if the brow will not remain in flexion.

I have discussed the clinico-physiologic aspect of the mechanism of the vertex presentation, because I am firmly convinced that the diagnosis and management of a complicating dystocia depends upon our understanding of the basic principles. Dystocia means prolonged first stage labor, but hasty operative interference gives rise to complications and to morbidity and mortality of the mother and the child. The Caesarean section has not increased the proficiency of our art when the maternal mortality ranges from two to twenty-five per

cent and higher; and the fetal mortality from four to thirty per cent. It appears that the reason for this operative furor is two-fold; too much surgical aptitude of the profession in a physiologic process which by natural laws should be delivered per vaginum by art as the highest compliment to the knowledge and skill of the accoucheur; and the fact that we have tried to standardize a physiologic process by so many hours of labor because the majority of labor cases terminate under twenty-four hours. The parturient should be rather managed according to the clinical course of the labor, and interference instituted only after careful consideration of the diagnosis.

THE CLINICAL MANAGEMENT OF THE DYSTOCIA OF THE VERTEX PRESENTATION: The main condition of the functional dystocia is prolonged labor primarily caused by false uterine contractions. The dystocia syndrome is the clinical manifestation of disturbed uterine physiology. Calkins[3] has pointed out that such clinical factors as age, height and weight, length of the conjugata vera, size of the child, and the duration of the pregnancy have little or nothing to do with the length of labor, particularly of the length of the first stage which opinion I fully endorse. If we accept Calkins' observations, we must accept the premise that the first stage of labor is prolonged on account of uterine dysfunction. We know very little as to how to shorten the first stage of labor, therefore, the management of a prolonged first stage labor is purely empirical. Clinical experience teaches us that we should treat the parturient with intelligent expectancy during the first and the second stage of labor.

THE FIRST STAGE OF LABOR: The first consideration in the management of the parturient after the diagnosis has been made, is the prevention of maternal exhaustion. A prolonged first stage labor is due to uterine dysfunction for which we do not know the cause or causes, nor do we know any specific therapy by means of which we can convert the dysfunction into normal function. Therefore, all treatment directed toward correction of the uterine dysfunction is empirical in that we support the parturient until the dysfunction corrects itself.

Since maternal exhaustion is the cardinal consideration in prolonged labor the author will discuss this subject. Exhaustion per se does not begin after the onset of labor. Clinical experience, however, has demonstrated that before the onset of labor measured either in hours or days, the parturient may have what the older clinicians called the prodromata of labor in which anorexia is particularly present. The parturient is mentally disturbed, does not partake of her usual quantity of food and water and does not sleep. Therefore, I consider every parturient as being potentially exhausted. If such a patient goes into labor and has a normal or an operative delivery in the usual time, she will not manifest any clinical evidence of exhaustion. But, if after the onset of labor the first stage is complicated by dystocia, the parturient will soon refuse food and water, and will lose sleep on account of the uterine contractions and exhaustion will set in.

Exhaustion is brought about by psychical and physical factors. If the patient is properly prepared psychically for the ordeal of labor during the prenatal period; and if during labor she is properly encouraged by moral support, the psychic factor of exhaustion will not be present. The physical factor consists of innanition, dehydration, and loss of sleep or rest. Therefore, our object in the prevention of exhaustion is to see that the parturient receives sufficient food, water, and rest for each twenty-four hours of her labor. The author is firmly convinced that exhaustion is most often due to improper management of the parturient, and that it may be a predisposing factor in sepsis of a prolonged labor.

The author's treatment of exhaustion is as follows: At the end of eighteen hours the condition of the cervix "barometer" and the atypical uterine contractions make it possible to diagnose the possibility of a beginning prolonged first stage labor. The patient is placed on a medical exhaustion regime. The urine is tested for acetonuria to gauge the state of exhaustion and repeated every twelve hours throughout the labor. The daily diet consists of either a liquid or soft diet amounting to 3000 calories of food and 2500 cc. of water and is given to the patient in frequent feedings every three or four hours. Each feeding is supervised by a nurse who encourages the patient and sees that the parturient eats all that is given her. She is given rest by sedation, and the periods of rest in each twenty-four hours are gauged by her condition. If the parturient is managed by this prophylactic exhaustion therapy she is brought in the majority of cases to the second stage of labor in good physical condition at which time art can intervene, if necessary, with the least amount of injury to mother and child.

The first stage of labor should be managed by intelligent expectancy until a definite indication arises for operative interference. If the labor appears to be unduly prolonged on account of a preconceived standard of time the use of the dilating bag to hasten cervical dilatation may be disappointing in that dilatation of the cervix does not occur, or the bag is removed and repeatedly introduced until the second stage is reached. The bag may cause prolapse of the cord on account of the displacement of the head. The bagging predisposes to a greater incidence of sepsis. The more experience we have with the dilating bags the more do we fear its use on account of the uncertainty of its action. At the Cook County Hospital a multiparous parturient was repeatedly bagged until we had to resort to Caesarean section. I prefer sedation, i.e. morphine, morphine and magnesium sulphate, morphine and scopalamine, and the barbiturates before the use of the bag in cervical dystocia. The frequency of Caesarean section in recent years has greatly increased, so that we may speculate that possibly some have been performed for functional dystocia. Grandin[4] and Reynolds[5] wrote that the indication in the main for Caesarean section should be primary operation. The more experience we have with Caesarean sections the more do we realize that it is a primary operation, because the length of the labor, particularly when the membranes have ruptured early, increases the morbidity and mortality of the mother. If we review our own experience and a study of the literature on the morbidity and mortality, it is a question whether we are improving our results by Caesarean section in the cases of functional dystocia. But, in selected cases conditions may arise in which Caesarean section must be performed.

Conditions may arise for delivery with cervical dilatation of eight cm. when the cervical dilatation is completed by Dührssen's incisions followed by forceps. A great deal of difficulty may be encountered with Dührssen's incisions, because these incisions bring about a mechanical cervical dilatation when the lower pole of the uterus is not physiologically prepared for the mechanism of expulsion, and we may encounter difficult forceps delivery or failed forceps on account of the resistance from the lower pole of the uterus or constriction rings, shock, and extension of the incisions into the lower uterine segment with severe hemorrhage and sometimes fatal results.

I will discuss briefly the manual correction of deflexion attitudes in the vertex presentations, leaving out the brow and chin presentation because these deflexion attitudes are of a different physiological etiology. The deflexion attitudes in the positions of the vertex presentation do not necessitate manual correction because the deflexion attitude will right itself if treated with intelligent expectancy.

SECOND STAGE INTERFERENCE: When the parturient is in the second stage of labor for two hours we can aid her by our art because the uterovaginal canal is formed and is prepared for the stage of physiological expulsion. Uterine dysfunction may complicate the second stage of labor, so that this condition must be diagnosed before hasty operative interference is instituted.

If the bag of water is intact, we should rupture it artifically when the second stage is reached for it is of no more value as an aid in cervical dilatation and frequently increases the expulsive powers of the second stage of labor.

Forceps can be applied, with good results to mother and child. If the persistent occiput posterior position has made no progress, we are justified in operative interference. If the fetal head is low or in the mid-plane either a manual correction of the head to an anterior position and forceps or a Scanzone forceps operation aided by an internal or external rotation of the fetal body to an anterior position.

Version and extraction is frequently indicated when the fetal head is floating or high in a normal cephalo-pelvic relation which is due to a delay in the "phenomenon of lightening."

The management of functional dystocia by the above brief exposition will, in my opinion, be safer for the mother and the child in the hands of the general profession.

CONCLUSIONS

1. Dystocia of the vertex presentation is due to a disturbance of the physiology of labor.
2. The management is dependent upon the diagnosis of functional or mechanical dystocia.
3. The functional dystocia is characterized by a prolonged first stage labor.
4. Prevention of maternal exhaustion is of prime importance in the management of a prolonged first stage labor.
5. Conservative treatment for the first, and two hours in the second stage of labor, before operative interference is instituted, will give the best results for the general profession.
6. The Caesarean section operation during a prolonged first stage labor carries a high fetal and maternal morbidity and mortality.

(Bibliography Con'inued on Page 210)

# PRESIDENT'S PAGE

## ETHICS

To the Members of the Kansas Medical Society:

The dictionary defines ethics as: "The basic principle of all right action; the science of human duty." So far as we can discover, the American Medical Association, organized in 1847, was the first large body to adopt a formal, written code of ethics, traditional usage having formerly prevailed. The code of the American Medical Association was that of Percival with a few alterations.

Thomas Percival was an Englishman, and the nephew of a physician who dying, left his library and a bequest of money to Thomas. Thus stimulated to the study of medicine, he first took an academic course and then entered the University of Leyden, from which he received his degree at the age of twenty-five.

An essay on medicine won him recognition and reward in his appointment as physician to the Manchester Infirmary. His code of medical ethics formulated in 1817 was largely to assure smooth professional service at the Infirmary, and also as a guide to his son who was just beginning the study of medicine. It was written in the peculiar style and spelling of that day, but it contains so much of good for the profession everywhere that it has been the model for all codes that have appeared since it was published, three years after Percival's death.

The American Medical Association refused to abandon the phraseology of Percival's Code until 1912, and it is these rules that the body of medical men regard as strict profesional propriety in their relation to the public and to each other.

The Oath of Hippocrates was the system of ethics for the profession prior to the year 1617. This famous oath, with which you are all familiar, represents sort of an agreement between physician and student, and it is supposed that ethical responsibility was imposed upon the student at the very beginning of his apprenticeship to an established doctor.

Hippocrates said a physician should be "an upright man instructed in the art of healing. He should also be modest, sober, patient, prompt to do his whole duty without anxiety, conducting himself with propriety in his profession and in all the acts of his life."—just simply stated, it means that a doctor should be a gentleman.

The medical profession is not the only one now to have a code of ethics. The lawyers have one, as do dentists and pharmacists; while outside of professional lines, we find that printers, architects, confectioners and other trades have adopted written codes. Any number of classification clubs, such as Rotarians, Kiwanians, Lions and Optimists have their code of ethics.

However, there is a difference between the ethics of business and the ethics of the profession. There is no specific code of ethics that business has attained resting on considerations broader than self-interest. It is otherwise with the professions. The peculiar significance of the medical code is that it prescribes the duties of a group to those outside the group. The practice of medicine is a profession whose prime object is the service it can render humanity, and the principles are primarily for the good of the public.

In its opportunities for doing good, relieving suffering and aiding in the uplift of the race, the medical profession ranks first, unless we except the ministry. Doing our duty as a profession calls for that which is noblest and best in all of us. "Service above self" has ever been the motto of the profession, ages and ages before there was even in existence such an organization as the Rotary Club which claims this slogan.

An individual who chooses the practice of medicine as his profession, takes upon himself an obligation to carry on according to the ethics of his chosen profession. Medical ethics as formulated by the American Medical Association is the pattern by which we govern our conduct toward our patients, our colleagues and the public.

Patience, delicacy, honesty and secrecy are four necessary requisites of a physician in dealing with his patients. Whatever a doctor may learn in confidence from his patients he should hold as a trust and as something not to be revealed unless required to do so by the statutes of the state.

The welfare of the patients should be our first consideration and we should give them the best we have. We should treat them as we ourselves would wish to be treated were our positions reversed. They should be given a careful and complete physical examination, and reports in each case recorded and filed. In justice

to ourselves and to our patients we should keep a full and accurate record of every case, no matter how unimportant it may seem at the time of examination.

And just as important as our conduct to our patients is our conduct toward our colleagues. Adverse criticism is unkind at any time, and when directed toward a colleague it is not only unkind, but also wholly opposed to the highest ideals of the profession.

In a case, for instance, where one physician follows another in the treatment of a patient, unfavorable comment should never be made by the successor. Naturally, when a physician is dismissed it is because of dissatisfaction, and be the cause real or imaginary, one is sure to hear prejudiced statements and remarks concerning the doctor dismissed.

Do not criticize the diagnosis or the treatment of your colleagues. There may be an occasional case of mistaken diagnosis, and you or I may make one, because no man, physician or layman, is wholly infallible, so it behooves us to be as charitable toward this brother as we would wish him to be toward us if the case were reversed. The public is very quick to catch the least sneer or insinuation directed by one doctor toward the ability or integrity of another.

The secret division of fees is contrary to the "Principles of Medical Ethics" which declares: "It is detrimental to the public good and degrading to the profession, and therefore unprofessional to give or receive a commission or divide a fee for medical advice or surgical treatment unless the patient or his next friend is fully informed of the transaction."

This should be a law unto the profession, but unfortunately it is disregarded by some doctors, thereby putting the entire profession into disrepute. It is absolutely right that a proper fee should be paid to the attending physician for service rendered in determining the medical or surgical treatment, and the patient should realize this. But when a physician takes a patient to a surgeon or internist, holds a consultation, spends his time and gives valuable information, he should present his bill to the patient and not to the surgeon or internist. These bills should be presented separately and by this procedure the patient will be impressed with the services of each, and he will realize and appreciate the fact that he has had a square deal, and will have greater confidence in the medical profession and more faith in his family physician.

So many of the older practitioners seem to forget the precepts of their school days, and in their attitude and treatment of each other they resort to extremely unethical conduct which not only presents a rather unpleasing picture to the layman, but is a pernicious example to the young graduate locating in their midst.

The young doctor is frequently looked upon with distrust mixed, perhaps, with some envy and jealousy, and he is treated as an interloper. He is not invited to join the medical society, and occasionally is rejected if he applies for membership. He just is not thought to know very much about medicine for all of the education he has had.

But he should, by all that is just and right, be cordially received into the professional circle and perhaps he may teach us something of the theory of modern medicine, possessing as he does, an education and training that many an older man did not acquire in his student days. And while he is teaching us the theory of medicine we may be able to teach him something of its practical application as learned by us in the experiences of years of service.

These young men should have our encouragement and consideration in building their careers. They are but standing where we stood when we began the practice of medicine, and most of us remember with pleasure and gratitude all friendly gestures made at that time by an older member of the profession. If we are to maintain the high standards of the profession we must have these young graduates for they are the ones who will carry on when we have passed to our final reward. We have but blazed the trail, and they will attain greater heights than any of which we have ever dreamed.

This subject of ethics is broad and deep, and much more could be said, did not space prevent further remarks.

In conclusion, I repeat what the greatest teacher and physician of all times said: "Therefore, all things whatsoever ye would that men should do to you, do you even so to them." Simply the Golden Rule that can be applied to all walks of life, social, business and professional. If we follow this precept, we shall then stand right, do right and be right.

J. F. Hassig, M.D., President.

# EDITORIAL

## CANCER OF THE BREAST

Willy Meyer and Halstead, working independently in 1888 established the present conception of the problem of cancer of the breast and set forth the fundamental principles of its treatment. Since that time the disease has been preeminently a surgical problem.

The Cancer is Curable symposiums of the American College of Surgeons on each year's program has produced many interesting reports of individual work. The collective study now under way by the Cancer Committee of the College of Surgeons will, it is hoped, serve to establish standards of evaluation of methods in the treatment of various types of cancer where heretofore each surgeon has been guided by his individual impressions and interpretations of his own more or less limited experience.

Due to the publicity given to the subject of cancer of the breast in recent years many patients are seeking advice concerning breast tumors and the number of benign tumors observed in relation to malignancy has greatly increased.

The correct differentiation of benign and malignant tumors depends upon the judgment of the surgeon and the tissue examination. The frozen section made while the surgeon waits at the operation table may be sufficient to establish a diagnosis when the clinical appearance is in agreement, but absolute dependence should not be placed on snap shot judgment of a hastily examined frozen section.

As an example of the movement in the treatment of cancer of the breast the work of Trout may be taken as an expression of the trend in surgical thought during the past twenty-five years. In his study of 412 cases of carcinoma of the breast operated by the Halstead type of radical surgery, in the early part of this series, there were twenty-two per cent cures of five years and over in those not subjected to any kind of radiation. In a part of the series where radium was placed under the skin of the axilla in the line of the internal mammary vessels at operation the percentage of such cures was raised to thirty. In the latter part of his series where post-operative radiation was used by means of a machine capable of 250,000 volts, in addition to the radium employed at the time of the operation, the resulting cures of five years and over was raised to fifty-five per cent.

Trout states that in the last ninety-four cases operated the preoperative employment of heavy radiation gives promise of still farther improvement in the percentage of cures. Some inoperable cases have been converted into operable ones by the use of radiation. Two such cases are mentioned which have remained free from carcinoma for over five years. Trout believes that the clinical index of Lee and Stubenbord is of distinct prognostic aid.

In a recent contribution Harrington, of the Mayo Clinic admits that surgical treatment may be influenced by the use of x-ray, the effect of which depends upon the degree of malignancy. He concludes that in his experience roentgen therapy has been of no significant aid as routine treatment and should be used only when the malignancy is of high degree.

Greenough, in a recent review of the work done in cancer of the breast at Massachusetts General Hospital since 1894, agrees in his conclusions with Harrington, in that the degree of malignancy of the primary tumor is of significance in prognosis, that the use of preliminary or post-operative radiation had practically no effect on the mortality and that early and radical surgery is the most effective treatment.

Contrasted with this note of pessimism is the opinion of A. C. Scott, Jr., whose experience leads him to believe that ninety-five per cent of patients with cancer of the breast are curable. The statement is based upon fifteen years experience in the treatment of 3,167 patients with various types of cancer and an intensive follow up study of 236 breast cancer cases treated by the hot knife surgical removal.

Scott, who has had a large experience in the

use of the hot knife, considers the conditions necessary for a high percentage of cures are treatment while the tumor is limited within the breast and complete removal by the hot knife.

The use of heat in the treatment of cancer has long been recognized. James F. Percy, with consummate skill employing massive heat in the treatment of advanced cancer, has demonstrated the value of sealing the lymphatics with heat as a factor in the technique of the cautery operation.

The majority of surgeons now employing heat in operative technique use the radio-knife and claim for it an added ten to twenty per cent in cures over the cold method.

If sealing of the lymphatics, rendering the cancer in the breast a closed vessel and at the same time inhibiting the growth of cancer cells can be accomplished, then the advocates for the intensive pre-operative radiation have a proposition worthy of a hearing.

The curability of cancer depends upon the time after the onset that the patient seeks treatment, the degree of malignancy and the methods employed in treatment.

Certainly the percentage of cures of cancer of the breast has not reached a point where surgeons can rest in satisfaction with operative technique; nor can they regard with a closed mind other agencies that offer improved technique.

Every surgeon should inform himself of the work of the Cancer Committee of the American College of Surgeons in its effort toward a collective, cumulative study and evaluation of methods of treatment.

R. B. S.

## ALYCE JANE

Drama — emotion — hysteria — surgery — sensationalism—ethics—all summed up in the name Alyce Jane: just another case of diaphragmatic hernia, but so publicized that every man, woman and child in the nation breathes free, now that the unwitting star of the drama is on the road to recovery. A surgeon on the high seas; a radiogram; a little girl rushed halfway across the continent; a hospital all agog with anticipation; an operating room filled with spectators; a greying surgeon deftly at work; a mother filled with anxiety and hope; a small white bed with a childish patient, making the grade! Sure, it's drama, and how the great American public does love its drama. But is such high-pressure publicity—columns and columns of it—good for the medical profession?

We take the viewpoint that it is not. In the first place it hurts the individual doctor publicized. These stories are seldom accurate since they rarely emanate from the attending physician. The regular medical man is bound by an ancient and honorable code of ethics which prohibits his "furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned. All other like self-laudation defy the traditions and lower the tone of any profession, and so are intolerable." We do not accuse the surgeon in this case of conniving at all his fanfare in the public prints: one the contrary, his whole record and reputation is so clean that this unwanted publicity must be particularly embarrassing to him, and we doubt not he has made earnest efforts to soft-pedal the whole thing. Yet the fact remains that his photograph (many years old) has been published far and wide, and his name is now an American byword. In the jaundiced eyes of some physicians, he could and should have, early, put an end to bulletins and other information, and in the eyes of these physicians he has been hurt. How unfair this is, for the whirlwind began when he was still on vacation, and it has been our observation that once the press begins to whoop it up, nothing can stop the whoopee till the sensation has burned itself out.

In the second place, this variety of sensationalism hurts the surgeons at large. In the future, cases of this disease may have a tendency to gravitate towards this clinic, now so well known, passing by other clinics in other cities

near to home or actually at home, where can be found other surgeons perfectly competent to operate successfully for this condition. No one clinic or clinician has a monopoly on knowledge, judgment or skill, or claims to have. To say nothing of added expense and inconvenience, such a gravitation would discount the reputation and ability of other able surgeons; in effect, this publicity, even though unintended, would then amount to unfair competition.

Third, this type of publicity hurts the medical fraternity at large. The public rightly expects a learned profession to conduct its affairs with modesty and dignity, and above all in the case of medicine, with privacy. This same public will give scant thought to the fact that usually such campaigns originate with the laity —the patient's family or friends—who may welcome the opportunity to strut in the limelight or bask in the reflected glory of some famous professional. Yet a certain percentage of this same public will feel that the learned profession of medicine has participated in a ballyhoo, and thereby has lost caste.

On the other hand, efforts to thwart legitimate publicity may be carried to an extreme. On the very day that the above-mentioned case was operated on, a similar operation was successfully performed in a small town in another state. In this case the surgeon swore the patient, the family, the hospital personnel, and everybody in contact to absolute secrecy; there were no spectators in the operating room; there was no prior publicity; and he admitted later to a gimlet-eyed reporter that he had performed the operation only upon the pledge of said reporter not to divulge his name. We have no idea why he went to such unusual precautions, unless he felt a certain disgust with the previous fanfare and decided there would be none of it at his expense: at any rate, his name was withheld, yet we can see no impropriety in naming the surgeon and then dropping the matter. In an effort to observe not merely the letter but the veritable spirit of medical ethics this particular surgeon has leaned over backwards in his modesty and meticulousness; we believe he has erroneously deprived himself of a measure of credit that is justly his. This is the other extreme.

As a matter of fact, there is a common sense ground midway between garrulity and taciturnity which any professional man of poise and experience should readily find, and adhere to. This ground keeps in view the essence of ethics on the one hand, and on the other hand recognizes the right of the public to legitimate news. Unusual patients, unusual diseases, or unusual therapeutics are matters of public interest that can be reported modestly and briefly in the lay press without lauding or exploiting any physician, and newspaper editors are evincing a better understanding of the physician's position in such reports. It would be better, of course, if all such items were released through the Public Relations Committee of the County Medical Society to which the physician belongs, but till now this has not always been feasible. When the absolutely unique happens, as in the Dionne quintuplets, nothing could or should interfere with the widest kind of publicity, in which case the poor doctor is the unhappy victim of circumstances, who simply has to stand up and "take it." But the merely unusual item should be handled with some sense of proportion, and the publicity should not subject the physician to criticism from the profession or the public. Let us take our public more into our confidence; let us inform them, through proper channels, more and more of the triumphs of modern medicine—that is the only way to defeat the blatant quacks and cults; but at the same time let us find that common sense middle ground; then there will not be another Alyce Jane.—From the Delaware State Medical Journal, March, 1935.

(Editor's Note: Our March Journal carries an article on diaphragmatic hernia with the report of a case successfully operated by a Wichita surgeon.)

# LABORATORY

## MASS VACCINATION IN TREATING AND PREVENTING COLDS

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The common cold certainly justifies its name of common but it is no common or easy problem to handle. When one has the care of a large institution the matter of treating colds often becomes a pressing need while the prevention of colds becomes a Utopian ideal.

Vaccination for colds has been tried in one form or another for several years with varying success. Stock vaccines have occasionally been successful but the autogenous vaccine has had the most uniform success. The rational in autogenous vaccine therapy seems sound in spite of the lurking spectre of a filtrable virus with enigmatic potentialities to harass us.

Having the care of a college population of 217, the outlook for the winter of 1934-35 seemed rather dark when late in September, almost the beginning of the school year, the number of colds reached epidemic proportions. As the colds spread through the school they increased in virulence so that middle ear and sinus complications became troublesome and dangerous.

From the standpoint of expense and inconvenience autogenous vaccines were hardly feasible. Ten of the most severe cases were cultured and the organisms were found to be the same in each. We thought, then, that a vaccine made from these organisms would at least be specific for the whole school and that we might hope for better results from such specificity. The organisms found were the usual ones, namely streptococcus, staphylococcus, and pneumococcus. By preparing a vaccine from our cultures we seemed to be hitting more directly at the particular strains of these bacteria in our locality.

Enough vaccine was therefore made for the whole group of 217. Two concentrations were made, one to be used as a prevention contained approximately 300 million bacteria to the cubic centimeter, the other contained 175 million per cc. and was to be used in treating the colds. The 300 million concentration was administered in three graduated doses of two, four, and eight minims. The 175 million concentration was given in four doses of three, five, eight, and ten minims. There was an interval of three days between doses in each type of case.

The immediate results were extremely gratifying. There were six men in the infirmary with colds at the time the inoculations were begun while eighteen more were up and around with rather severe colds. A number of others had colds of a milder character and did not report to the infirmary for treatment. The course of all these colds seemed to be remarkably shortened by the vaccine. Of this, however, nothing can be said absolutely since the subjective element cannot be ruled out and especially since no absolute norm exists in this respect of time. It can be said though with great certainty and objectivity that there were no ear or sinus complications after the vaccines were begun. Further, there were no new cases among those who received the inoculations as a preventive measure, so that those who had at first refused the vaccine later asked for it. Altogether 114 students and faculty members received the inoculations, that is to say about fifty-two per cent of the group. (The student was left free to take or not take the vaccine.)

For two and a half months, that is up to the Christmas holidays, no colds appeared in those vaccinated. At this time, however, a number of men went to Chicago and other large cities to attend conventions. Four of these returned with colds in spite of the inoculations. In all these cases another dose of two minims was given and here again the course seemed shortened. All four of these men had histories of marked susceptibility to colds.

Now (April) five and a half months after beginning the inoculations, we feel certain that they had considerable efficacy. We would hesitate to state just exactly where this efficacy lies. Perhaps it was nothing more than an increased resistance attributable to any non-specific protein. Perhaps we had a favorable year with regard to colds. The evidence in this case, however, appears to be to the contrary, namely a rapidly spreading and increasingly virulent infection very early in the school year. Also a great many men, about thirteen per cent of the whole group, who had been frequent victims of colds in past years went through this year without trouble. In the surrounding territory there was a great deal of flu and colds.

If, on the other hand, we compare the per-

centages of those who contracted colds after the vaccine and those who did not receive vaccine the results do not look so favorable. Here we find that twenty-one per cent of those who did not receive vaccine had colds while fifteen per cent of those who did receive vaccine had colds. It seems justifiable to qualify this latter percentage on the basis of mildness and short duration after an extra dose.

Another interesting point of comparison is this. In the month from September 15 to October 15 twice as many patients were admitted to the infirmary with colds as were admitted for a similar reason in the following five and one-half months.

As already pointed out, our initial hypothesis was that good results should be expected from the fact that we were using a very specific strain in a definitely isolated group. A point in support of this may be drawn from the fact that of the fifteen per cent contracting colds after vaccine forty-one per cent contracted them elsewhere, that is while they were in large cities where contact was established with other strains and other types of organisms.

Our final conclusion then may be stated thus: In any fairly isolated large group, for instance in a large asylum or in a college in the country, inoculations with the specific organisms peculiar to that group should appreciably decrease the morbidity rate and the severity in common colds.

Whether or not such inoculations would help in cases where there is constant exposure to a variety of types of organisms for instance in a group of school children, is difficult to say. It is equally difficult to say whether the same results would have been obtained with vaccine of the ordinary stock variety put up by pharmaceutical houses. We had only one case of this kind for comparison. This man received a stock vaccine, selected on the basis of the predominant organisms in his nose and throat cultures. Two weeks later he contracted a cold and was given our specific vaccine. He has had no colds since. No important conclusions can be drawn from one case. It is mentioned only in passing.

Whether or not the series of more than ordinarily severe colds prevalent in September would have stopped automatically without vaccine is also a matter of conjecture. A causal relation, however, seems to exist between vaccine and cessation of colds, for it has been our experience in past years that the colds pass through the whole community, increasing in virulence as they go. For this reason so many severe colds at the very beginning of the scholastic year forced us to take a chance on the vaccine with hopes of success. We feel that success above the common place was obtained.

# MEDICAL LITERATURE

## HYPOTHYROIDISM IN CHRONIC HEART DISEASE

Blumgart and Davis from the Department of Medicine of Harvard have experimented during the last eighteen months on the complete removal of the thyroid gland in seventy-five patients with heart disease. This procedure was employed to decrease the demand on the overburdened heart by means of a lowered metabolic rate of hypothyroidism. This study is a report of the patients studied from the endocrine angle in which they find that the operation is unsuccessful unless every vestige of the normal thyroid is removed. The signs and symptoms of hypothyroidism generally appeared between the first and second months after operation, and rarely, however, until the basal metabolic rate had remained low for weeks or even months. These writers feel justified in their treatment of heart disease by this method and that the small dosage of thyroid which is subsequently given is maintained without difficulty in quantity sufficient only to prevent symptoms of hypothyroidism.

Blumgart, H. L., and Davis, D.: Hypothyroidism Induced by Complete Removal of the Normal Thyroid Gland in the Treatment of Chronic Heart Disease. Endocrinology 18:693-700 (Nov.-Dec.) 1934.

## BEER IN THE DIABETIC DIET

This report from the Metabolic Unit of the Michael Reese Hospital, Chicago, is a study of the use of beer in the diabetic diet in four cases. It is a careful detailed study and the results show that beer has no effect either harmful or beneficial in the diabetic diet. To the extent that the alcohol contained in the beer may be utilized without forming sugar and without requiring additional insulin beer may offer an advantageous source of extra calories in some cases. The authors believe that it is wise to substitute it for other foodstuffs in the diet as one would do in dealing with any other special article of food.

Strouse, S., Soskin, S. and Vidgoff, B.: Beer in the Diabetic Diet. Ann. Int. Med. 8:1028-1032 (March) 1935.

## THE INTERRELATIONSHIP OF ADRENAL AND PITUITARY

Shumacker and Firor report the experimental work in rats and show quite conclusively that both clinically and experimentally severe pituitary deficiency causes a striking atrophy of the adrenal cortex, which may be restored to normal in animals by substitution therapy. Hyperpituitarium conversely results in a hyperplagia of the adrenal cortex. Both the pituitary and adrenal deprivation cause a stunting of growth, inactivity and a lowered body temperature. When either of these glands is removed there is an atrophy of the reproductive system with a marked alteration in the sex activity.

Shumacker, H. B., Jr., and Firor, W. M.: The Interrelationship of the Adrenal Cortex and the Anterior Lobe of the Hypothysis. Endocrinology 18:676-692 (Nov.-Dec.) 1934.

## THE RELIEF OF PRURITIS

In a series of twenty-one cases the writer from the Washington University School of Medicine tried out the treatment of generalized pruritis in twenty-one cases with the oral administration of erythrol tetranitrate and glyceryl trinitrate. He found that these drugs gave complete or almost complete relief in ten cases, moderate relief in seven and no relief in four. They were almost completely ineffective in cases of localized pruritis.

Prinzmetal, M.: USE OF NITRITES FOR THE RELIEF OF PRURITIS. Arch. Dermat. & Syphil. 30:843-846 (Dec.) 1934.

## RELATION OF CONVULSIONS TO BRAIN LESIONS

Dr. Grayzel of the Department of Pathology at Yale experimented on fourteen rabbits producing an artificial hyperinsulinism to produce convulsions. He found that rabbits which had no or slight convulsions showed no changes in the brain but rabbits which had had severe convulsions one or more times showed definite anatomical lesions in the central nervous system. These lesions were proportionate to the number and length of the convulsions. He describes these lesions as being zones of shrunken hyperchromatic cells and in more severe instances zones of necrobiosis.

Grayzel, D. M.: Changes in the Central Nervous System Resulting from Convulsions Due to Hyperinsulinism. Arch. Internal Medicine 54:694-701 (Nov.) 1934.

## LOBAR PNEUMONIA AND DIGITALIS

The authors from the Hospital of the Rockefeller Institute for Medical Research report an analysis of 1,456 cases of lobar pneumonia to ascertain what influence the action of digitalis has on the course of this disease. In their opinion it does not seem to influence the course of events in lobar pneumonia. In favorable cases in which auricular fibrillation and auricular flutter occur its action appears to be beneficial. It is not certain whether the action of digitalis precipitates the occurrence of auricular fibrillation, but if it does the number of cases is small, especially in the earlier decades. Heart block did not occur during the febrile period of lobar pneumonia except in those cases where an excessive amount of digitalis was given to bring it about.

Cohn, A. E., and Lewis, W. H. Lobar Pneumonia and Digitalis. Am. J. Med. Sc. 189:457-482 (Apr.) 1935.

## SEXUAL STERILIZATION

The authors of this paper report their observations on 288 cases sterilized in the province of Alberta, Canada. They conclude that sexual sterilization is undoubtedly a logical and acceptable method of coping with the great problems of mental diseases and defects. In the patients whom they have sterilized they have received no complaints as to any change in libido or sex satisfaction. Their group includes chiefly mentally defectives and borderline cases with exceedingly bad family histories. Contrary to the frequently expressed fears there has been no evidence that sterilization will lead to promiscuity or a lowering of moral standards, and that on the other hand the treatment and training of the patients and the maintenance of an adequate follow up system are still essential. Factors regarded as hereditary were found in 60.8 per cent of cases.

Baragar, C. A., Davidson, Geo. A., McAlister, W. J., McCullough, D. L. Sexual Sterilization: Four Years' Experience in Alberta. Am. J. Psychiat. 91:897-923 (January) 1931.

## THE ELECTROCARDIOGRAM IN CORONARY THROMBOSIS

Richter of the Rush Medical School of Chicago reports the electro-cardiographic studies of seventy-two cases of coronary thrombosis in which serial curves were taken, and only two failed to show significant changes. The author stresses the advantage of taking serial curves, one as soon after the accident as possible, one the next day, a third, forty-eight hours later, and if necessary at weekly intervals for a month or longer. He points out that it is possible for single records to be taken at times when the characteristic signs of coronary thrombosis are absent, and that serial records on the other hand rule out those conditions simulating coronary occlusion such as are seen in chronic valvular disease, hypertrophied hearts of athletes, and

(Continued on Page 210)

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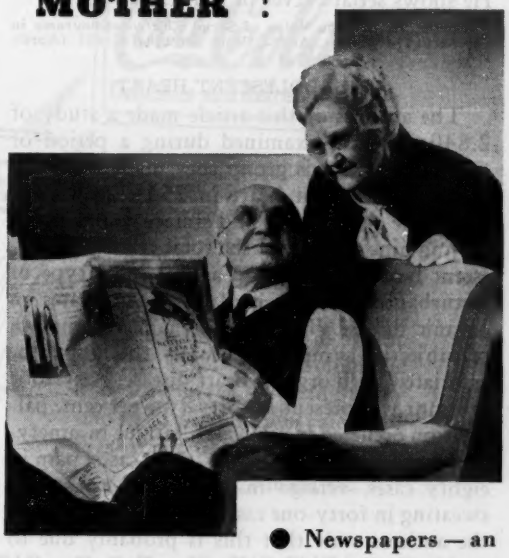

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those of chronic coronary disease. The serial curves of acute infectious diseases are usually not characteristic enough to confuse the diagnosis. He shows serial curves in four cases.

Richter, H. A.: The Value of Serial Electrocardiograms in Coronary Thrombosis. Am. J. Med. Sc. 189:487-497 (April) 1935.

### THE ADOLESCENT HEART

The authors of this article made a study of 2,840 children, examined during a period of eight years. In this group they made the diagnosis of adolescent heart in 254 children between the ages of nine and sixteen years, representing nine per cent of the total cases. By adolescent heart they refer to a functional type of disturbance which in many ways simulates an organic disease. These children may complain of subjective symptoms, usually thought to be associated with organic heart disease. A systolic murmur was present in forty-two per cent, palpitation occurred in 123 cases, fatigue in ninety-nine cases, dyspnea in eighty-three cases, pain in eighty cases, vertigo in fifty-seven cases, and sweating in forty-one cases. In their conclusions the authors state that this is probably due to rapid physiological changes associated with adolescence. The outstanding electrocardiographic findings were the frequency of Q.R.S. complexes and of the T wave of high amplitude. It is their opinion that the differential diagnosis can be made only by careful evaluation and analysis of all the data obtained, and that in some instances a definite opinion should be given only after several years of careful observation.

Lissner, H. H., Goffin, J. L. C., and Rosenfeld, M. H.: The Adolescent Heart. Am. J. Dis. Child. 49:353-360 (Feb.) 1935.

### ETIOLOGICAL BACKGROUND OF URTICARIA

Stokes, Kulchar, and Pillsbury report a study of the etiological background of urticaria with especial reference to the psychogenic factors. They carefully review the literature on the subject quite extensively although chiefly from a dermatological point of view. They report the study of one hundred cases of urticaria, as to the etiology, and point out six possible groups of causal factors: familial predisposition, personal allergic status, gastro-intestinal disturbance, infection, idiosyncrasy to drugs, and psychogenic components. The psychogenic component operated alone in twelve per cent of these cases, but was exhibited in the background in eighty-three per cent of their cases. They regard the psychological as a personality type rather than connecting it with any external circumstances. The chief of the psychogenic elements are the tension makeup, neuroticism, the worry habit, shock, family troubles, and finance. They especially mention that the exclusion of substances to which the patient gave a positive skin reaction and an elimination diet were conspicuously unsuccessful as therapeutic measures. Their treatment consists of an acid-calcium regime, non-specific desensitization, psychotherapy, actinotherapy, dietotherapy, and occasionally the administration of atropine and ephedrine.

Stokes, J. H., Kulchar, Geo. V., Pillsbury, D. M.: The Effect on the Skin of Emotional and Nervous States. Arch. Dermat. & Syphil. 31:470-499 (April) 1935.

### NUTRITIONAL TREATMENT OF ACNE VULGARIS

Lerner who is associated with the New York Post-Graduate Medical School at Columbia University reports on a study of twenty patients with acne vulgaris in which he used a nutritional treatment. Essentially this was done by substituting calcium, potassium and magnesium for the common table salt used by the patient. It necessitated a good deal of inconvenience for the patient and for this reason was not entirely successful; in addition it requires frequent injections of a mixture of the salts. In this series of 20 cases no other therapeutic measures were used and a good response was obtained in patients with pustular and indurated types of acne. The author believes that local applications and fractional doses of roentgen therapy have enhanced and hastened the results.

Lerner, Chas.: Nutritional Treatment of Acne Vulgaris. Arch. Dermat. & Syph. 31:526-531 (April) 1935.

### SYPHILIS OF THE KIDNEYS

Hermann and Marr review the literature on syphilis of the kidney and add three additional personally observed cases. In their conclusions they point out that syphilis of the kidney does occur though is quite uncommon. They suggest a clinical classification of this disease into acute, subacute, and chronic syphilitic nephrosis.

Herrmann, G., and Marr, W. L.: Clinical Syphilitic Nephropathies, A Study of New Cases and a Survey of Reported Cases. Am. J. Syphil. & Neurol. 19:1-29 (January) 1935.

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Bibliography: Dr. Louis Rudolph's article on The Dystocia of the Vertex Presentation.

(Continued from Page 200)

BIBLIOGRAPHY

1. Rudolph, L., and Ivy, A. C.: Am. Jour. Obst. Gynec. 25:74, 1933.
2. Rudolph, L.: Am. Jour. Obst. Gynec. 25:563, 1933.
3. Calkins, L. A.: Am. Jour. Obst. Gynec. 27:349, 1934.
4. Grandin, E. H.: Am. Gynec. Trans. 15:382, 1890.
5. Reynolds, E.: Am. Gynec. Trans. 32:43, 1907.

(Continued on Page 212)

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# NEWS NOTES

## NEWS AND SPEAKERS PROJECTS

The Committee on Public Health and Education composed of Dr. H. E. Haskins, chairman, Kingman; Dr. V. E. Chesky, Halstead; Dr. H. F. Hyndman, Wichita; Dr. Forrest A. Kelly, Winfield; and Dr. C. R. Lytle, McPherson, met in Wichita on April 10 for consideration of radio talks, news releases, and speakers bureaus to be sponsored by that committee. Plans were approved whereby weekly articles will be prepared on timely medical subjects, and forwarded to Kansas daily and weekly newspapers for publication. Also, efforts are to be instituted in the near future for development of speakers bureaus among the various county medical societies to present talks on medical and economic subjects before lay groups. Radio activity is to be withheld until the other projects are operating satisfactorily.

## McPHERSON COUNTY PLAN

A new plan for medical care of indigent persons was instituted in McPherson County on April 5. By virtue of a contract, the county commisioners have designated the county medical society as county physician, and all members of the society and other eligible physicians are authorized to administer indigent care. A fifty per cent fee schedule has been accepted and additional arrangements were made for mileage, hospitalization and drugs. Physicians are furnished an official list of those entitled to service, and others, not appearing thereon, are referred to the county poor commissioners for approval or rejection. All care is furnished on a strict free choice of physician basis.

## PHYSICIANS DESIRED

Information has been received that Paxico desires the service of a physician. None is located there at present, and it is said that a good practice is available. Suitable offices are accessible in a drug store owned by Mrs. J. F. Nuttman. The town has a population of approximately 350 and is located ten miles from Maplehill, fourteen miles from St. Marys, eighteen miles from Wamego, twenty miles from Eskridge, and thirty miles from Topeka. Further details may be secured by writing Mrs. J. F. Nuttman, Paxico, or the central office.

Kirwin, sixty miles northwest of Hays, is also still without the services of a physician. Additional correspondence, received from Mr. John M. Gray of that city, indicates that considerable advantages are possible.

## MEMBERS

Dr. A. R. Adams has been appointed city physician and city health officer of Leavenworth. He is also president of the Leavenworth County Medical Society.

Dr. L. D. Johnson, Chanute, and Dr. O. L. Garlinghouse, Iola, attended a banquet given by the Kansas City Academy of Medicine, at the President Hotel, in Kansas City, on April 14.

Dr. W. R. Kenoyer, Hugoton, has returned from Los Angeles, California, where he has been taking special medical work.

Dr. J. W. Spearing, Cimarron, has been appointed county health officer for Ford county.

Physicians from ten states attended the Menninger clinic held in Topeka from April 15 to April 20 which was a postgraduate course on "Neuropsychiatry in General Practice," given by the staff of the clinic. Dr. Robert P. Knight, Topeka, was chairman of the course, and several out-of-state speakers gave addresses. A round table, which enabled physicians to present cases for discussion was held on Saturday, the last day of the course.

## OFFICIAL CALL

To the Officers, Fellows and Members of the American Medical Association:

The eighty-sixth annual session of the American Medical Association will be held in Atlantic City, New Jersey, from Monday, June the tenth, to Friday, June the fourteenth, Nineteen hundred and thirty-five.

The House of Delegates will convene on Monday, June the tenth.

The Scientific Assembly of the Association will open with the General Meeting held on Tuesday, June the eleventh, at 8:30 p. m.

The various sections of the Scientific Assembly will meet Wednesday, June the twelfth at 9 a. m. and at 2 p. m. and subsequently according to their respective programs.

Attest: Olin West, Secretary,

Chicago, Illinois, March the twenty-fifth.

Walter L. Bierring, President.
Frederick C. Warnshuis,
Speaker, House of Delegates.

## COUNTY SOCIETIES

The Anderson County Medical Society held a meeting April 3 in Garnett and discussed plans for future meetings.

Members of the Barton County Medical Society and guests from Reno, Rice, Stafford, Pratt and Edwards counties met on March 28 in Great Bend for a dinner meeting. Dr. Porter Brown and Dr. K. L. Druet, both of Salina, were the guest speakers on the program. A sound motion picture showing the manufacture of insulin was shown during the program.

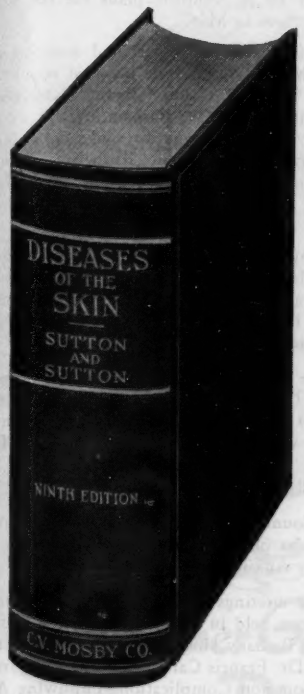
Dr. O. R. Withers, Kansas City, Missouri, spoke on "Allergy in General Practice" and Dr. Paul Gimple, Kansas City, Missouri, on "Functional Uterine Bleeding" at a meeting of the Bourbon County Medical Society on April 15 in Fort Scott. A discussion of these papers followed.

The Brown County Medical Society met April 26 for a dinner meeting in Hiawatha with Dr. H. W. Carle, St. Joseph, Missouri, as the principal speaker. His subject was "Hypoglycemia, the Non-Diabetic Type." Dr. Charles

(Continued on Page 214)

**The Ninth Edition of the Standard Text on Dermatology—Eighteen Years of Outstanding Service to the Medical Profession of America.**

# SUTTON'S DISEASES OF THE SKIN




AN EMINENT Eastern specialist on diseases of the skin once eloquently referred to Dr. Richard L. Sutton as "a walking encyclopedia of dermatological information."

Not all of us are privileged to attend the lectures and clinics of so outstanding a man of science, but fortunately we have ready access to the record of his wisdom and industry preserved in the pages of this great textbook on dermatology and syphilis.

For nearly two decades this volume has served the medical profession of the world.

As a famous reviewer in the *Archives of Dermatology and Syphilis* has said: "It is encyclopedic and scholarly. It has the spirit of an enthusiastic devotee of a specialty, and it has the vigor and piquant spirit that are Sutton. There is no need to advise dermatologists or other physicians that it should be on their shelves. They have already decided that for themselves, and in one edition or another it is found everywhere."

The *London Lancet*, that most conservative of publications, refers to it as "world famous," and the *British Journal of Dermatology* as "an atlas of skin diseases."

The volume is well balanced, and evenly written. The clinical descriptions are complete, and the matter of differential diagnosis is given the attention it deserves. Sound and proved methods of treatment are suggested. The prescriptions recommended are those which have stood the test of time. The collection of photomicrographs is one of the finest ever published.

In the ninth edition the author has requisitioned the services of his son, Richard L. Sutton, Jr., A.M., B.S., M.D., L.R.C.P. (Edin.), who is also a teacher in the University of Kansas School of Medicine, and who was his collaborator in the popular and widely used text, "AN INTRODUCTI ON TO DERMATOLOGY."

Descriptions of more than a score of newly recognized diseases are included, and the literary references have been brought up to the summer of 1934.

Half a hundred new illustrations have been added, many of them portraying disorders that have never before been included in any textbook.

Needless to say, the present volume si one which is bound to meet with universay appreciation and approval.

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By **Richard L. Sutton, M.D., Sc.D., LL.D., F.R.S.(Edin.)**, Professor of Dermatology, University of Kansas School of Medicine, and **Richard L. Sutton, Jr., A.M., M.D., L.R.C.P. (Edin.)**, Assistant in Dermatology, University of Kansas School of Medicine.

**The C. V. Mosby Company, Publishers, 3523 Pine Blvd., St. Louis, U. S. A.**

Greenburg, St. Joseph, Missouri, gave a paper on "Transurethral Section of the Prostate."

At a meeting of the Cloud County Medical Society in Concordia on April 2, a sound film showing the preparation and clinical use of insulin, was shown to the physicians of that county and visiting physicians from surrounding counties. Dr. C. C. Stillman, councillor for that district, gave a short talk. Members of the society presented a symposium on diabetes as related to general practice and the specialties, and a discussion by the guests followed.

Dr. P. C. Hardin, Arkansas City, was the principal speaker at a meeting of the Cowley County Medical Society on April 11 in Arkansas City. He spoke on "The Surgical Treatment of Crippled Children."

The Crawford County Medical Society held a joint dinner meeting with the auxiliary on March 28 in Pittsburg. The ladies of the auxiliary had charge of the program. On April 11 the society held a meeting with Drs. O. J. Dixon and Ferdinand C. Helwig, both of Kansas City, as guest speakers. Dr. Dixon's topic was "Report of Experimental Studies with Viable Muscle in the Control of Hemorrhage," and Dr. Helwig's subject was "Determining the Type of Malignant Tumors from Pathologic Studies."

Members of the Dickinson County Medical Society held a meeting in Herington, April 18. Dr. Richard L. Sutton, Kansas City, gave a talk on "Skin Diseases."

The Ford County Medical Society held a dinner meeting in Dodge City. Physicians from the southwestern part of the state were guests and Dr. C. F. Taylor, Norton, and Dr. H. L. Snyder, Winfield, were the main speakers during the evening session. The program started at 3:00 p. m. and closed after the general discussion of a paper given by Dr. F. L. Loveland, Topeka, on the economics question. Dr. W. M. Mills, Topeka, gave a paper with a discussion by Dr. H. N. Tiben, Wichita.

The Golden Belt Medical Society held their Forty-sixth annual meeting April 11 in Junction City. The program started at three o'clock in the afternoon with a talk by Dr. W. S. Yates, Junction City, on "How Are We Going to Live." Later in the afternoon, Dr. M. B. Miller, Topeka, spoke on "Bacilluria;" Dr. C. F. Taylor, Norton, on "Methods of Arriving at a Diagnosis in Tuberculosis;" Dr. Frank C. Neff, Kansas City, Missouri, on "Diagnosis of Certain Disturbances in Childhood," and Dr. H. L. Snyder, Winfield, on "The Cancer Problem." The speakers were followed by a dinner for the visiting physicians. Officers for the coming year are as follows: Dr. J. L. Lattimore, Topeka, president; Dr. R. R. Cave, Manhattan, vice president; Dr. F. R. Croson, Clay Center, secretary.

Members of the Tri-County Medical Society, including physicians from McPherson, Harvey, and Marion counties, held a meeting on April 10 in McPherson, with Saline, Rice and Reno county societies as their guests. Dr. T. G. Orr, Kansas City, Missouri, gave a talk on "Recent Viewpoints on the Treatment of Gallbladder Disease;" and Dr. E. C. Padgett, Kansas City, Missouri, spoke on "Recent Advances in Chest Surgery."

Dr. Meyer Wiener, professor of clinical ophthalmology, Washington University, St. Louis, Missouri, gave a talk on "Inflammatory Diseases of the Eye," and Dr. J. Barrett Brown, associate professor of surgery, Washington University, St. Louis, Missouri, talked on "The Repair of Surface Defects Due to Burns and Other Causes," at the meeting of the Reno County Medical Society in Hutchinson on April 19.

Officers elected to serve in 1935 for the Riley County Medical Society are Dr. Willard C. Schwartz, president; Dr. J. D. Colt, Sr., vice president; and Dr. Darrell L. Evans, secretary, all of Manhattan. At a meeting on March 14 in Manhattan Dr. K. L. Druet, Salina, spoke on "Some Aspects of Diabetes Melleties."

Members of the Saline County Medical Society met in Salina on April 16 to complete plans for the state meeting to be held there in May.

Eighteen physicians who have practiced medicine in Kansas for more than 50 years, were honored at a banquet given by the Sedgwick County Medical Society on April 19, in Wichita. Dr. D. W. Basham, Wichita, presided at the special table for the guests, and gave a short talk. Dr. A. B. Rivers, Mayo Clinic, Rochester, Minnesota, gave the main address of the evening, on "Some Problems Relating to the Diagnosis and Treatment of Peptic Ulcer."

A dinner meeting of the Sumner County Medical Society was held March 21 in Wellington. Dr. G. E. Stafford, Salina, gave a paper on "Pituitary Diseases of Children," and Dr. W. H. Neel and Dr. Karl E. Voldeng, led the discussion following the paper.

Members of the Washington County Medical Society were hosts to the Clay County Medical Society at their meeting on April 9 in Washington. A paper on "Frontal Sinus" illustrated with lantern slides was given by Dr. C. D. Armstrong, Salina; and one on "The Baby" by Dr. E. G. Padfield, Salina.

The Wilson County Medical Society held a dinner meeting in Neodesha on April 8, with the members of the Wilson County Auxiliary.

The two April meetings of the Wyandotte County Medical Society were held in Kansas City at the Providence Hospital and Bethany Hospital, respectively. At the April 17 meeting Dr. Francis Carey, Kansas City, gave a paper on "The Common Complications Following Abdominal Operations and Their Treatment." On April 24, Dr. E. A. Reeves, Kansas City, gave a case presentation on "Internal Hernia of the Broad Ligament with Twisted Ovarian Cyst," and Dr. L. E. Growney, Kansas City, gave one on "Diagnosis and Treatment of Pernicious Anemia."

## DEATH NOTICES

Dr. Farquard Campbell, 54 years of age, died at his home in Kansas City, on April 1, after serving as physician in Kansas City for thirty-one years. He was born in London, Canada, in 1880, and graduated from Western University there in 1903. He went immediately to Kansas City and remained there during the rest of his career. He took postgraduate work at the Cook County Hospital, Chicago, and also at the Mayo clinic, Rochester, Minnesota. He studied in Edinburgh, Scotland, for a period of seven months in 1929. He was a member of the Wyandotte County Medical Society, and a member of the Kansas City, Kansas, board of health.

(Continued on Page 216

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Medical science has made a deep and searching study of the entire question of food values, metabolism, and all the factors which have to do with the quantity and kind of food needed under various conditions. Your doctor is familiar with these studies, and knows how to apply that knowledge in determining the needs of *your* body.

If you are tempted to try some diet which has been recommended to you as a cure-all, have a talk with your doctor first.

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Dr. C. H. Johnson, 66 years of age, died at his home in Atchison, on April 3 from a heart attack. He graduated from the Columbia University, College of Physicians and Surgeons, in New York in 1895. He was a member of the Atchison County Medical Society.

## MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

| Disease | Month ending April 13 | Month ending March 16 |
|---|---|---|
| Measles | 6681 | 5684 |
| German Measles | 6104 | 3808 |
| Mumps | 713 | 648 |
| Chickenpox | 346 | 465 |
| Whooping cough | 285 | 298 |
| Pneumonia | 277 | 442 |
| Scarlet Fever | 257 | 381 |
| Smallpox | 87 | 52 |
| Syphilis | 77 | 107 |
| Gonorrhea | 61 | 64 |
| Tuberculosis | 59 | 66 |
| Diphtheria | 46 | 42 |
| Influenza | 41 | 91 |
| Pink-eye | 15 | 19 |
| Meningitis | 13 | 11 |
| Cancer | 8 | 8 |
| Vincent's angina | 6 | 1 |
| Undulant Fever | 3 | 1 |
| Typhoid Fever | 2 | 4 |
| Scabies | 1 | 2 |
| Tularaemia | 1 | 0 |
| Encephalitis | 1 | 0 |
| Poliomyelitis | 0 | 1 |
| Tetanus | 0 | 1 |

## NEW BOOKS RECEIVED

NAMES OF SURGICAL OPERATIONS—Compiled by Western Surgical Association. Edited by Dr. Carl E. Black, Jacksonville, Illinois. Published by the Bruce Publishing Company, Minnesota, at $3.00 per copy.

THE 1934 YEARBOOK OF NEUROLOGY PSYCHIATRY ENDOCRINOLOGY by Dr. Hans Reese, professor of neurology and psychiatry at the University of Wisconsin Medical School; Dr. Harry Paskind, assistant professor of nervous and mental diseases, Northwestern University Medical School; Dr. Elmer Sevringhaus, associate professor of medicine, at University of Wisconsin Medical School. Published by the Year Book Publishers, Chicago, at $3.00 per copy.

DOCTORS AND JURIES by Mr. Humphreys Springstun of the Detroit Bar. Published by P. Blakiston's Sons and Company, Inc., Philadelphia, at $2.00 per copy.

SURGICAL PATHOLOGY OF THE PERITONEUM by Dr. Arthur E. Hertzler, surgeon to Agnes Hertzler Memorial Hospital, Halstead, Kansas, and professor of surgery, University of Kansas. Published by J. B. Lippincott Company, Philadelphia, at $5.00 per copy.

TEXTBOOK OF BIOCHEMISTRY, Edited by Benjamin Harrow, Ph. D., associate professor of chemistry, City College, New York, and Dr. Carl Sherwin, member of staff of St. Vincent's Hospital and French Hospital, New York. Published by W. B. Saunders Company, Philadelphia, at $6.00 per copy.

## KANSAS MEDICAL AUXILIARY

Members of the Brown County Medical Auxiliary held a joint dinner meeting with the medical society on April 26 in Hiawatha after which the ladies met for a short business session.

The Crawford County Medical Auxiliary was in charge of the program for the medical society meeting held on March 28. Musical numbers and a play were the main part of the program. Committees for the session were Mrs. C. M. Gibson, Mrs. E. J. Schulte, of Girard, and Mrs. H. E. Marchbanks; decorations, Mrs. E. C. McDonald and Mrs. H. J. Veatch; banquet, Mrs. A. J. Revelle and Mrs. C. D. Bell.

Members of the Labette County Medical Auxiliary met at the home of Mrs. C. S. McGinnis, Parsons, for the regular monthly meeting. Mrs. C. N. Morrow gave a paper on "Modern Medical Science." Two guests at the meeting were Mrs. J. C. Creel, Sr., and Mrs. Conyers Herring. Members present were Mrs. T. D. Blasdel, Mrs. G. W. Hay, Mrs. C. S. McGinnis, Mrs. Mirl Ruble, Mrs. L. A. Proctor, and Mrs. N. C. Morrow.

A short business meeting was held by members of the Montgomery County Medical Auxiliary on March 15 in Independence after which the ladies were guests of the medical society at the showing of a sound film on the production and use of insulin. Dr. E. C. Duncan, Fredonia, gave a talk on legislative problems of the profession.

Dr. and Mrs. Beal, Clearwater, were host and hostess to the members of the Sedgwick County Auxiliary on March 25 in Clearwater. Dr. Beal gave a talk on "History of Medical Instruments."

The Wilson County Medical Auxiliary met in Neodesha on April 15 and officers elected for the coming year were: Mrs. E. C. Duncan, president; Mrs. H. E. Morgan, vice president; Mrs. B. P. Smith, secretary-treasurer. The program consisted of papers on "State Medicine," and "Medical Insurance" by Mrs. J. W. McGuire; and "Posture" by Mrs. H. E. Morgan.

## EXCHANGES

### BASIC SENSE

Somewhere, wandering about the smoky committee rooms and spittoon-littered marble halls of the Kansas state house is a bill known as the basic science act.

It requires that anyone in the future applying for a license to practice the art of healing human beings in Kansas must first pass an examination in elementary physiology. He should be required to know a few simple facts about the human body—the location and functions of its main bones, nerves, muscles and organs.

Anyone in the future applying for a license to heal in

(Continued on Page 218)

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Kansas, whether as a doctor, an osteopath, a chiropractor or any one of the other healing cults, would be required to take this easy examination which any high school graduate, with a little cramming, can easily pass.

It would not be nearly so hard as that now required for a veterinarian's license. Kansas sets much higher standards for the people who treat sick hogs than she does for those who treat sick human beings.

The reason for this is that hogs as yet have not been given the vote. If they ever are, we will probably find that they will fall victim to various cults. Some of them will develop conscientious scruples against vaccination. Others will be come persuaded that hoof and mouth disease, glanders, trichina and all other porcine ailments can be cured by the proper adjustment of their spare ribs. And they would demand legislation recognizing all these hog-healing cults.

The basic science law would invoke no hardship on the cults. No person now practicing any of the arts, sciences or magics of human healing in Kansas would have his license revoked. None would have to take the new examination.

It would affect only those desiring to enter the profession, business or racket of healing in the future. Nor would it interfere with what is known as "medical freedom." For those having passed this examination would not be required to put its common sense knowledge into practice on their patients. They would be just as free to follow their fancies as they are now, and disregard what they had learned.

You may think this bill is not rigid enough. But at least it is an improvement over our present situation. As it now stands, any man who will pay tuition and take a six-week course in some wild healing cult, and who then passes the childishly simple examination ordained by the leaders of this cult in its own phoney kind of science, is thereupon licensed by the state to hang out his shingle and practice for his personal profit the art of healing upon the people of this state.

The bill does not apply to Christian Scientists, whose faith-healing is a philosophy and a religion, rather than an occupation conducted for profit. But for the others, it does insure that a man who takes money for treating human ailments must know at least half as much about the human body as a veterinary is required to know about a hog.

On this basis, it seems reasonable, and should pass. It is not only basic science, but basic sense.—W. L. W. in Emporia Gazette.


**CLASSIFIED ADVERTISEMENTS**

FOR SALE: A Victor x-ray, ten-inch capacity, fluoroscopic table, vertical fluoroscope, stereoscope, tubes and other equipment. Address Dr. C. W. Lawrence, Emporia, Kansas.

FOR SALE: Fischer X-ray machine. Type, 2-A. Voltage 220. Cycles, 60. Amps. 20. Killowatts 5. Seven inch Coolidge tube. 11x14 inch screen. G. W. Phegley, Lincoln, Kansas.

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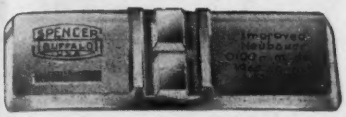

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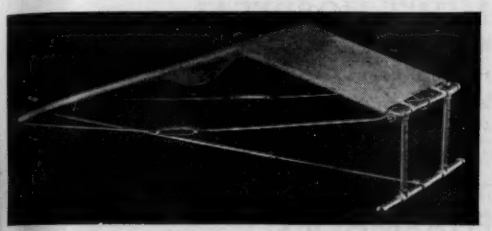

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